

ADVISORY COMMITTEE ON TRAINING IN PRIMARY CARE MEDICINE AND DENTISTRY

***TRAINING CULTURALLY COMPETENT
PRIMARY CARE PROFESSIONALS TO
PROVIDE HIGH QUALITY HEALTHCARE
FOR ALL AMERICANS:***

**THE ESSENTIAL ROLE OF TITLE VII,
SECTION 747, IN THE ELIMINATION OF
HEALTHCARE DISPARITIES**

**Third Annual Report to
the Secretary of the
U.S. Department of Health and Human Services
and to Congress**

November 2003



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The views expressed in this document are solely those of the Advisory Committee on Training in Primary Care Medicine and Dentistry and do not necessarily represent the views of the Health Resources and Services Administration nor the United States Government.

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ADVISORY COMMITTEE ON TRAINING IN PRIMARY CARE MEDICINE AND DENTISTRY

Section 748 [2931] of the Health Professions Partnerships Act of 1998 authorizes the establishment of an Advisory Committee on Training in Primary Care Medicine and Dentistry. The Act directs the Secretary to establish an advisory committee to be known as the Advisory Committee on Training in Primary Care Medicine and Dentistry. The Advisory Committee was constituted to:

- 1) Provide advice and recommendations to the Secretary concerning policy and program development and other matters of significance concerning the activities under section 747 and
- 2) Not later than 3 years after the date of enactment of this section, and annually thereafter, prepare and submit to the Secretary, the Committee on Health, Education, Labor and Pensions of the Senate, and the Committee on Energy and Commerce of the House of Representatives, a report describing the activities of the Advisory Committee, including findings and recommendations made by the Advisory Committee concerning the activities under section 747.

Congress created the Advisory Committee to obtain insight and objectives from primary health care providers, educators and trainees who work on the front line. The members below include health professionals from the disciplines of primary care medicine and dentistry including physicians, physician assistants, as well as general and pediatric dentists.

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ABSTRACT

Improving the health of our Nation's populace increasingly depends on the elimination of health disparities in care. This third report outlines the role that Title VII, section 747 should play in meeting that goal. The first two reports of the DHHS Advisory Committee on Training in Primary Care Medicine and Dentistry addressed the accomplishments of Title VII, section 747 programs in effectively training our primary care workforce to meet the needs of the Nation and their critical role in strengthening the link between emerging public health concerns and primary care. This third report details a specific set of recommendations that address the critical area of helping to eliminate health care disparities in racial and ethnic minorities and increasing the quality of care for all Americans.

According to the U.S. Census Bureau, minorities will grow to 46 percent of the total population by 2050. Reports from the Institute of Medicine and others demonstrate that racial and ethnic minorities receive lower quality of health care services and are less likely to receive routine medical procedures. These disparities have been documented to increase mortality, morbidity and health care costs and decrease quality of life and productivity. Primary care providers reach two-thirds of the U.S. population; therefore, training primary care physicians, dentists and physician assistants to provide culturally effective health care is a significant strategy to help eliminate health care disparities and improve the overall quality of care for racial and ethnic minorities.

Title VII, section 747 funded activities are uniquely positioned to help reach our national goal of eliminating health care disparities by preparing primary care health providers to deliver culturally effective care through innovations in education and training programs. This report recommends the design, implementation, and evaluation of training programs that develop specific cultural competencies, determined in collaboration with other publicly and privately funded programs and community groups.

CONCLUSION

The Advisory Committee's deliberations and review of available data have led to the central conclusion that Title VII, section 747 has had a clear record of success with respect to its multiple objectives over the past 25 years. The Advisory Committee recommends that Title VII, section 747 be used as a significant strategy to increase the cultural competency of the health care workforce and help eliminate health care disparities.

RECOMMENDATIONS

1. Title VII, section 747 requires continued support and additional funding to avoid undermining the effectiveness of America's primary care training infrastructure.
2. Priority must be given to primary care training programs that emphasize health disparities as a quality of care issue and the critical role of cultural competency in the delivery of quality care.
3. The Secretary should convene a working group from HRSA, NIH, CDC, AHRQ, and other government agencies to collaborate on ensuring that new knowledge about health care disparities is translated into primary care education and practice.

In support of these recommendations, the Advisory Committee proposes a budget of \$198 million for Title VII, section 747 discipline-specific and interdisciplinary projects.

APPENDIX

The attached appendix illustrates the disparities in care for racial and ethnic minorities in the United States. Specifically the appendix documents the disparities in care for Whites, Blacks, and Hispanics by State for the leading health indicators of (1) infant mortality (2) diabetes prevalence, (3) dental visits, and (4) age-adjusted death rates.

EXECUTIVE SUMMARY

INTRODUCTION

“There is a continuing disparity in the burden of death and illness experienced by Black and other minority Americans as compared to our Nation as a whole. That disparity has existed ever since Federal record keeping began more than a generation ago and although our health charts do itemize steady gains in the health of minority Americans, the stubborn disparity remains . . . an affront to both our ideals and to the ongoing genius of American medicine” (Report of the Secretary’s Task Force on Black and Minority Health, 1986).

According to the U.S. Census Bureau, minorities will comprise 46 percent of the total population by the year 2050. Reports from the Institute of Medicine and others demonstrate that racial and ethnic minorities receive lower quality of health care services and are less likely to receive routine medical procedures, even when variations in factors such as insurance status, income, age, education, environment, employment, and co-morbid conditions are taken into account. The impact of these disparities has been shown in increased mortality and morbidity, decreased quality of life and productivity, and overall increased health care costs. The elimination of health disparities has been a focus of current and past administrations over the past two decades. Now, as addressed in *Healthy People 2010*, the elimination of health disparities has become a cornerstone of our national health policy.

The sources of health and health care disparities are varied and complex. However, recent evidence points to stereotyping, biases, and greater clinical uncertainty on the part of health care providers as key contributors to inequity in treatment. In addition, the severe time pressures and cost-containment conditions under which health professionals operate may hamper their ability to accurately assess presenting symptoms of minority patients, particularly where cultural or linguistic barriers are present. Thus, the provision of culturally effective health care has emerged as a significant strategy in eliminating health care disparities and improving overall quality of care.

Title VII, section 747 funded programs are uniquely positioned to help reach our national goal of eliminating health care disparities by preparing primary care

providers to be competent in delivering culturally effective care through innovations in education and training programs. Unlike other specialty areas of medicine, primary care providers have a unique ability to impact both health before illness onset (through counseling and prevention) and health care treatment/maintenance after disease onset. Effective primary care delivery is of particular importance in eliminating health disparities because it is considered to be an affordable and cost-effective approach to generating and maintaining positive health outcomes.

Primary care providers touch the lives of more Americans than any other group of clinicians. Two-thirds of all Americans interact with a primary care provider every year.

Purpose of this Report

Improving the health of our Nation’s populace increasingly depends on the elimination of health disparities in care. This third report outlines the role that Title VII, section 747 should play in meeting that goal. The first two reports of the DHHS Advisory Committee on Training in Primary Care Medicine and Dentistry addressed the accomplishments of Title VII, section 747 programs in effectively training our primary care workforce to meet the needs of the entire Nation and their critical role in strengthening the link between emerging public health concerns and primary care.

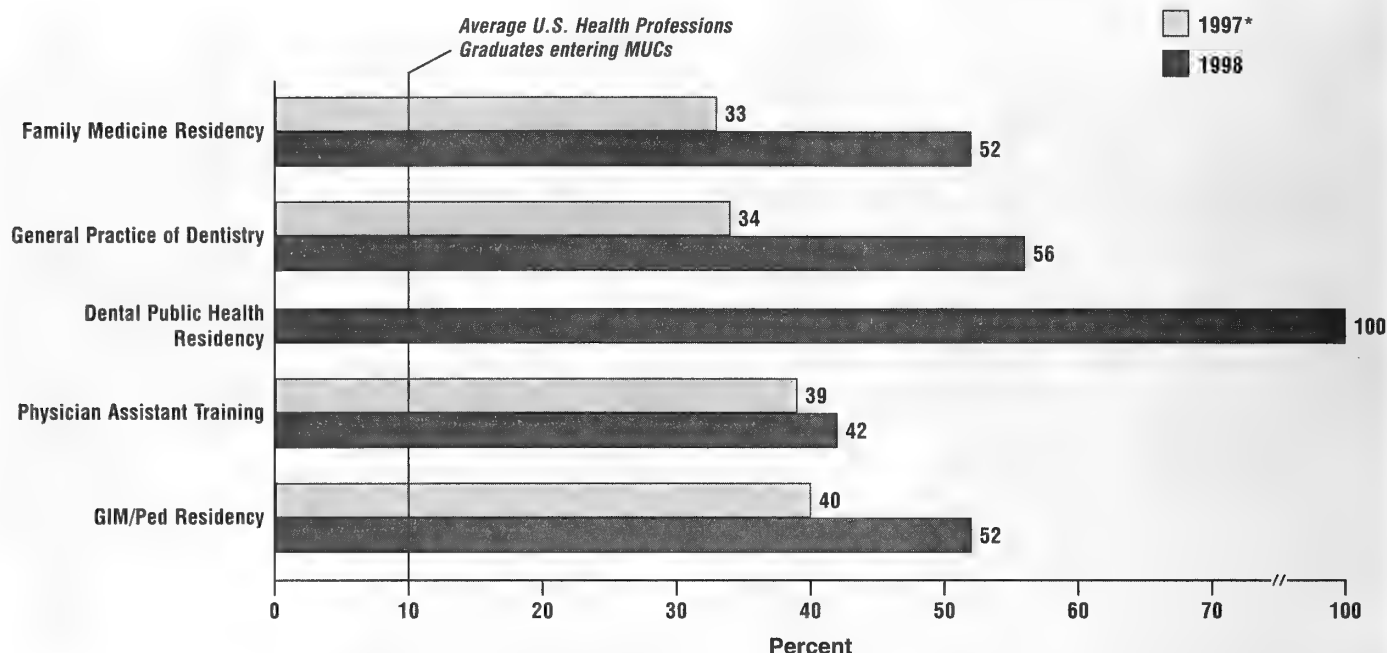
This third report details a specific set of recommendations that address the utilization of Title VII, section 747 programs to increase cultural competency of our nation’s primary care providers to help eliminate health care disparities in racial and ethnic minorities and increase the quality of care for all Americans.

Summary of Accomplishments of Title VII, Section 747 Programs

Title VII, section 747 of the Public Health Service Act has transformed the landscape of primary care training and practice in the United States. From its beginnings, Title VII, section 747 has helped to develop and expand training programs for primary care providers, to promote diversity in the workforce, to ensure that

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BHPr-funded Medicine and Dentistry Program Graduates Are 3 - 10 Times More Likely to Practice in Medically Underserved Communities



* 1997 data shown where available

1) Bureau of Health Professions (BHPr) Program Performance Data: BHPr CPMS.

2) Average U.S. Health Professions Graduates Entering MUCs, Caiman N., 1991, presentation to New York Council on Graduate Medical Education.

health professions curricula respond to the changing demands and emerging needs of the U.S. population, and to improve the Nation's health by assuring equitable access to a high-quality, health care workforce.

For example, Title VII, section 747 funding has produced the following outcomes:

- Primary care graduates of Title VII, section 747 programs are **three to ten times** more likely to serve minority and disadvantaged populations by practicing in medically underserved communities (see chart above).
- Programs funded under Title VII, section 747 graduate **two to five times** more minority and disadvantaged students than other programs (see chart on next page). Evidence establishes that these graduates are, on average, **five times** more likely to practice in underserved communities and serve racial/ethnic and disadvantaged populations.
- Title VII, section 747 programs have significantly increased the number of underrepresented minority enrollees, graduates and faculty in health care education. **These programs support, on av-**

erage, the development of over 10,000 underrepresented minority residents, graduates, and faculty each year.

- Title VII, section 747 initiates structural changes in the training of our health professionals to address the immediate and vital needs of the Nation. For example, Title VII has been instrumental in the development of innovative curricula in bioterrorism, HIV/AIDS, substance abuse, geriatrics, rural health, culturally effective care, and other areas of critical importance. **No other Federal vehicle exists to create such structural changes.**

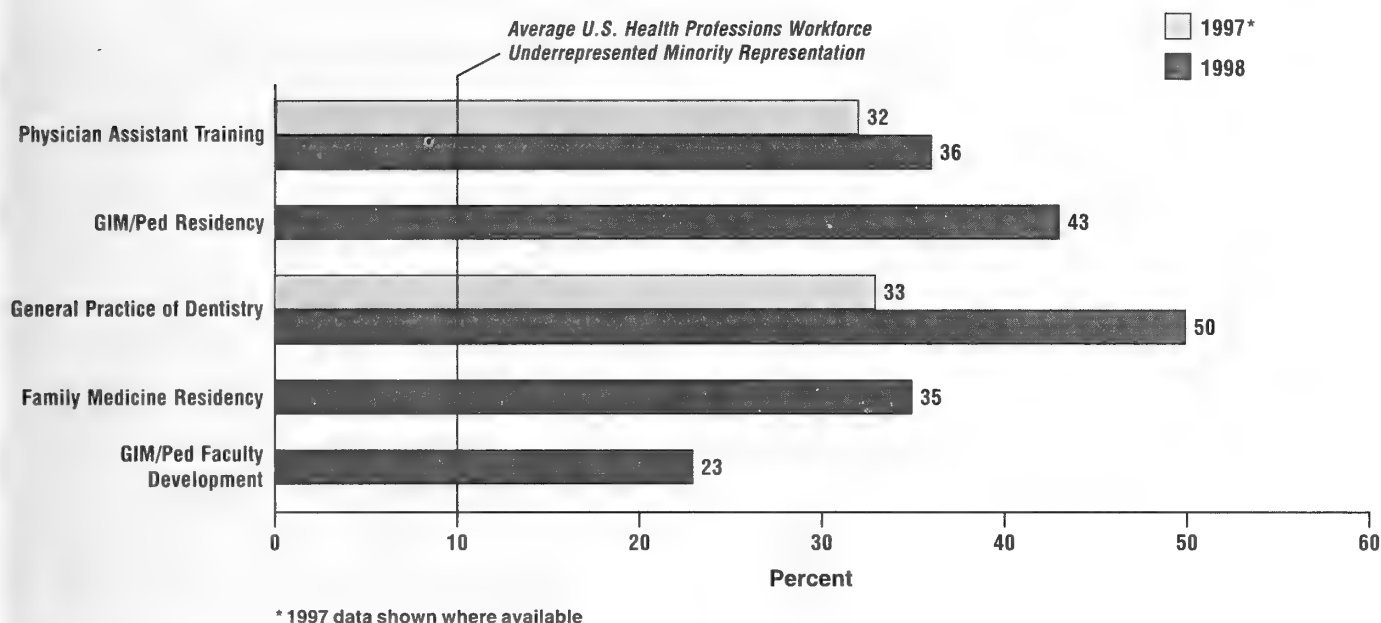
HEALTH DISPARITIES, CULTURAL COMPETENCY AND QUALITY OF CARE

Health Disparities and Quality of Care

HEALTHCARE DISPARITIES are racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences and appropriateness of intervention (Smedley, Stith, et al. 2002).

DIVERSITY

BHPr Supported Programs Graduate 2 - 5 Times More Minority and Disadvantaged Students



1) Bureau of Health Professions (BHPr) Program Performance Data: BHPr CPMS.

2) Average U.S. Health Professions Workforce Underrepresented Minority Representation, compiled by HRSA, Bureau of Health Professions, National Center for Health Workforce Information and Analysis, from U.S. Bureau of the Census data.

Despite concerted efforts, studies have established that racial and ethnic minorities receive a lower quality of health care services and are less likely to receive routine medical procedures. Evidence of racial and ethnic disparities in health care has shown to be consistent across a range of illnesses and health care services. For example, data from the Medicare Current Beneficiary Survey (Gornick, 2000), 2000 Community Tracking Survey (Hargraves, 2002) and the 1998 National Health Interview Survey (Series 10, 2002) show that:

- Racial and ethnic minorities are less likely than whites to have a specific source of ongoing care.
- Insurance coverage for Latinos (68 percent) and African Americans (81 percent) is significantly lower than the coverage for whites (89 percent).
- Among those who had a usual source of care, African Americans and Hispanics were more likely than whites to have hospital-based (as opposed to office-based) care.
- Non-white Medicare beneficiaries (for whom many preventative services require no cost sharing) have fewer cancer screenings, flu shots, ambulatory and physician visits than their white counterparts.

- Racial and ethnic minorities are less likely than their white counterparts to have had a dental visit in the past year, more likely to have outstanding dental disease, and more likely to have untreated dental caries.

"The burden of harm conveyed by the collective impact of all our health care quality problems is staggering" (Chassin, Gavin, et al., 1998).

Cultural Competency and Effectiveness

The provision of culturally effective care is critical to the delivery of quality health care for all Americans. Being culturally competent to deliver that care is seen as a way to respond to diverse patient populations, reduce health care disparities, and improve the quality of care for all patients. Experts draw clear links between cultural competence, quality improvement, and the elimination of racial or ethnic disparities in care (Betancourt, Green, et al., 2002).

The field of "cultural competence" in health care has emerged to address the factors that may contribute to racial and ethnic disparities in care. Studies

indicate that providers assess patients of different racial/ethnic backgrounds differently, when all factors but race/ethnicity are comparable (Ferguson, Weinberger, et al. 1998; Fiscella, Franks, et al. 2000). Further, evidence suggests that stereotyping, biases, and uncertainty on the part of health care providers significantly contributes to unequal treatment.

CULTURAL COMPETENCE in health care describes the ability of systems to provide care to the patients with diverse values, beliefs and behaviors, including tailored delivery to meet patient's social, cultural and linguistic needs (Betancourt, Green, et al., 2002).

As detailed in the IOM report entitled *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health* (Smedley, Stith, et al., 2002), providers' conscious and subconscious beliefs and perceptions about their patients can impact the type and effectiveness of the treatment delivered. Specifically, there is a negative association between racial/ethnic minority status and both the quality of health care received and positive health outcomes, even after accounting for treatment site, insurance status and other patient characteristics.

Given the rapidly changing U.S. demography, the majority of future health care professionals will be called upon to care for a significant percentage of patients with backgrounds different than their own. To do so effectively, health care providers must have a firm understanding of how and why different belief systems, cultural biases, ethnic origins, family structures and other culturally determined factors influence the manner in which people experience illness, adhere to medical advice, and respond to treatment. Studies have established that such differences are real and translate into real differences in the outcomes of care.

"Our health care system is complicated for all . . . you can just imagine trying to navigate it if you have limited-English proficiency or a different understanding of health and health care" (Practicing physician quoted in Betancourt, Green, et al., 2002).

The ultimate goal is a health care system and workforce that can deliver the highest quality of care to every patient regardless of race, ethnicity or cultural background.

Cultural Competency Training in Primary Care Medicine and Dentistry

Few training programs currently provide any formal education about culture and its relationship to

health. Recent efforts have been ongoing to attempt to develop curriculum guidelines and standards, but, currently, none are widely used in medical education.

Health care providers are entering the workforce with little or no training in psycho-social issues. Training programs must be encouraged to incorporate multicultural education into their curricula to equip health care providers with the tools and skills needed to be competent to provide appropriate culturally effective care. This includes incorporating educational modules that emphasize cross-cultural training, effective communication, and an awareness of the impact of social and cultural factors on health beliefs and behaviors.

Title VII, section 747 has the ability to make cultural competency an integral part of providers' training by rapidly inducing across-the-board structural changes in the curricula of medical and dental schools. Title VII, section 747 programs use incentives to introduce and encourage guidelines for model curricula to medical and dental schools throughout the Nation, impacting changes in undergraduate and graduate curricula as well as faculty development.

CHALLENGES TO THE DELIVERY OF PRIMARY CARE MEDICINE AND DENTISTRY

Health care providers need to be aware of the impact of social and cultural factors on health beliefs and behaviors and to be equipped with the tools and skills to manage these factors appropriately through training and education. There currently exists a substantial gap in consistent and comprehensive education in medical school, training during residency, and continuing education on the scope of health care disparities and how to competently provide culturally effective care. Challenges that affect quality and contribute to disparities in care include:

- **Low provider awareness/ understanding of health disparity prevalence.**
- **Limited provider awareness of how to deliver culturally effective care.**
- **Absence of relevant education** across all levels of training (school to practice).
- **Poor cross-cultural communication** between providers and patients of different racial, ethnic, or cultural backgrounds.
- **Poorly designed systems of care** necessary to meet the needs of diverse patient populations.

- **Lack of diversity** in health care's leadership and workforce.

"If we don't have at the table the diverse populations we serve, you can be sure that policymaking and program design are going to be exclusionary as well . . . and we're going to continue to have disparities if we don't start increasing diversity in the health professions" (CEO of a Public Hospital quoted in Betancourt, Green, et al., 2002).

CONCLUSIONS

The Advisory Committee's deliberations and review of available data have led to the central conclusion that Title VII, section 747 has had a clear record of success with respect to its multiple objectives over the past 25 years. The Advisory Committee recommends that Title VII, section 747 be used as a significant strategy to increase the cultural competency of the health care workforce to help eliminate health care disparities. Title VII, section 747 is the major vehicle for influencing the content and capacity of primary care education and training in the United States. As such, it is the ideal mechanism for increasing the awareness and understanding of health care disparities among providers and the impact of race, ethnicity and culture on clinical decision making, as well as developing the educational infrastructure to address these needs.

Primary care providers are instrumental in efforts to eliminate health disparities and improve the public health. Unlike other specialty areas of medicine, primary care providers have a unique ability to impact health both before illness onset (through counseling and prevention) and after disease onset (through treatment/maintenance). Further, as the Nation's population continues to shift in its ethnic and cultural composition, it is even more imperative that primary care practitioners be trained to deliver both technically and culturally effective health care. According to Census Bureau projections, minority groups have increased from 13 percent of the population in 1950 to 30 percent of the population in 2000 and are projected to account for 46 percent of the total population by 2050.

Since Title VII, section 747 programs train primary care providers to serve in community health centers and medically underserved communities, it is even more essential that these providers be specifically trained in cultural competency. In 2001, the current administration invested over \$1 billion in the development of community health centers across the country, as well

as the establishment of new health care facilities in previously underserved areas. Such an expansion of service areas requires a comparable expansion in the primary care education and training system for those practitioners who will serve on these front lines. The costs of not investing in the education and training of our primary care providers will have critical ramifications on health disparities and national health care costs.

RECOMMENDATIONS

1. **Title VII, section 747 requires continued support and additional funding to avoid undermining the effectiveness of America's primary care training infrastructure.** These training programs are critical in ensuring that primary care providers are ready to respond to the emerging health care needs of the population. Primary care providers play an important role in the rapidly changing health care environment.
2. **Priority must be given to primary care training programs that emphasize health disparities as a quality of care issue and the critical role of cultural competency in the delivery of quality care.** Title VII, section 747 programs should be encouraged to:
 - ❖ Develop incentives for curricula that teach the basic principles of quality improvement. In the teaching of quality improvement, programs should look at specific health indicators by gender, race and ethnicity.
 - ❖ Develop programs in cultural competency as a required, integrated, component of the training and professional development of healthcare providers. Such programs should emphasize the importance of socio-cultural factors on health beliefs and behaviors and the effect of race, ethnicity and culture on clinical decision-making and cost of care.
 - ❖ Define minimal cultural competencies needed for providers, define curricula to develop these competencies, and establish procedures for assessing these competencies in trainees. Ensure that cultural competency training is both didactic (classroom based) and experiential (applied) and provide service learning with community organizations and groups.
 - ❖ Develop incentives for recruitment, development and support of faculty to teach cultural competency.

- ❖ Encourage collaboration among HRSA and other publicly and privately funded programs to develop, implement and evaluate training programs that increase cultural competency.
 - ❖ Encourage interdisciplinary research and collaborations among HRSA, public health faculty, social and behavioral scientists, and medical and dental faculty to facilitate the development and assessment of training practices that incorporate cultural competency.
 - ❖ Encourage accrediting bodies to develop standards that ensure up-to-date education about health disparities and provide cultural competency training for all levels of learners (i.e., students, residents, faculty and community healthcare providers).
- 3. The Secretary should convene a working group from HRSA, NIH, CDC, AHRQ, and other government agencies to collaborate on ensuring that new knowledge about**

health care disparities is translated into primary care education and practice.

In support of these recommendations, the Advisory Committee proposes a budget of \$198 million for Title VII, section 747 discipline-specific and interdisciplinary projects. This funding level, as initially addressed in the Committee's first report, will result in a major pay-off in the provision of quality, accessible, culturally effective care—a substantial and key step towards the elimination of health disparities and the provision of quality health care for all Americans.

APPENDIX

The attached appendix illustrates the disparities in care for racial and ethnic minorities in the United States. Specifically the appendix documents the disparities in care for Whites, Blacks, and Hispanics by State for the leading health indicators of (1) infant mortality (2) diabetes prevalence, (3) dental visits, and (4) age-adjusted death rates.

THIRD ANNUAL REPORT TO THE SECRETARY OF THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES AND TO CONGRESS

TRAINING CULTURALLY COMPETENT PRIMARY CARE PROFESSIONALS TO PROVIDE HIGH QUALITY HEALTHCARE FOR ALL AMERICANS:

THE ESSENTIAL ROLE OF TITLE VII, SECTION 747, IN THE ELIMINATION OF HEALTHCARE DISPARITIES

INTRODUCTION

“There is a continuing disparity in the burden of death and illness experienced by Black and other minority Americans as compared to our Nation as a whole. That disparity has existed ever since Federal record keeping began more than a generation ago and although our health charts do itemize steady gains in the health of minority Americans, the stubborn disparity remains . . . an affront to both our ideals and to the ongoing genius of American medicine” (Report of the Secretary’s Task Force on Black and Minority Health, 1986).

According to the U.S. Census Bureau, minorities will comprise 46 percent of the total population by the year 2050. Reports from the Institute of Medicine (IOM) and other distinguished organizations demonstrate that racial and ethnic minorities receive lower quality of health care and are less likely to receive routine medical procedures, even when variations in factors such as insurance status, income, age, education, environment, employment, and co-morbid conditions are taken into account. The impact of these disparities has been shown in increased mortality and morbidity, decreased quality of life and productivity, and overall increased health care costs. The elimination of health disparities has been a focus of current and past administrations over the past two decades. Now, as addressed in *Healthy People 2010*, the elimination of health disparities has become a cornerstone of our national health policy.

A major contributor to health care disparities is the inability to access quality health care. In 2001, the current administration invested over \$1 billion in the development of community health centers across the

country; the establishment of new health care facilities in previously underserved areas; and the expansion of existing facilities to include new services, such as oral health, mental health, respite care and pharmacy services. In addition, the National Health Service Corps placed over 2,500 primary care clinicians in medically underserved areas. Though access to quality health care has increased through these initiatives, millions of families still face barriers to obtaining quality health care because of existing cultural and linguistic barriers, poor cross-cultural communication between patients and providers of different racial, ethnic or cultural backgrounds, and systems of care that are poorly designed to meet the needs of diverse patient populations.

In addition, recent evidence points to stereotyping, discrimination and greater clinical uncertainty on the part of health care providers as key contributors to inequity in treatment. The severe time pressures and cost-containment conditions under which health professionals now operate hamper their ability to accurately assess presenting symptoms of minority patients, particularly where cultural or linguistic barriers are present. Research points to limited provider awareness of how to deliver culturally effective care as well as a lack of relevant education across all levels of training as critical elements in disparities of care. Thus, the provision of culturally effective health care has emerged as a significant strategy in eliminating health care disparities and improving overall quality of care.

Title VII, section 747 funded programs are uniquely positioned to help reach the national goal of eliminating health care disparities by preparing primary care providers to deliver culturally effective care through innovations in education and training programs. Primary care providers have a unique ability to impact health

both before illness onset (through counseling and prevention) and after disease onset (through treatment/maintenance). The ability of these providers to reach populations before illness onset and influence individual behaviors that impact health outcomes is critical to addressing disparities in care, resulting in an affordable and cost-effective approach to generating and maintaining positive health outcomes.

PURPOSE OF THIS REPORT

Improving the health of our Nation's populace increasingly depends on the elimination of health disparities in care. This third report outlines the role that Title VII, section 747 should play in meeting that goal. The first two reports of the Department of Health and Human Services (DHHS) Advisory Committee on Training in Primary Care Medicine and Dentistry (ACTPCMD) addressed the accomplishments of Title VII, section 747 programs in training the primary care workforce to meet the health care needs of the Nation and their critical role in strengthening the link between emerging public health concerns and primary care. As stated in the ACTPCMD second report, achieving the public health goals of *Healthy People 2010* will require greater public health collaborations which can be "better and more rapidly achieved through the public health training supported by Title VII, section 747 programs."

This third report first summarizes the accomplishments of Title VII, section 747 and demonstrates that this program is uniquely positioned to achieve the national goal of eliminating health care disparities through innovations in education and training programs. Second, the report summarizes the scope and breadth of health disparities in relationship to quality of care. Third, the report introduces the concept of culturally effective care, as it relates to reducing health disparities and improving the quality of care. Fourth, the report describes the primary and dental care delivery disciplines funded through Title VII, section 747 programs. Finally, the report concludes with a specific set of recommendations that address the quality of care for all Americans.

ROLE OF TITLE VII, SECTION 747 IN REDUCING HEALTH DISPARITIES AND INCREASING QUALITY OF HEALTH CARE

Title VII, section 747 is the major vehicle for influencing the content and capacity of primary care education and training in the United States. As such, it is

the ideal mechanism for developing an educational infrastructure that impacts health disparities and improves the quality of health care for all Americans. Given the broad population reach and first contact aspect of primary and dental health care providers, Title VII funded activities can directly impact the overall quality of health care through impacting changes in undergraduate and graduate curricula as well as faculty development. **No other Federal vehicle exists to create such structural changes in the Nation's health care workforce.**

Title VII, section 747 programs are essential in educating future practitioners to care for underserved populations and encouraging them to work in underserved communities. This helps to increase access to quality health care for those often left behind by the largely private systems of care in this country. Students funded through Title VII, section 747 programs provide basic health care services to underserved populations as part of their training. These programs employ strategies such as providing didactic training for students for practice in underserved areas, interactions with faculty role models who serve in underserved areas, and placement services to foster and encourage students to enter practice in these areas. **Health care practitioners who spend part of their training providing for health care for the underserved have a higher likelihood of locating in underserved areas after graduation or program completion** (DHHS, Program Accomplishment Statements, 1998). The populations served by Title VII, section 747 graduates are those most vulnerable in receiving quality care due to their lack of resources, poor access, and communication and cultural barriers.

Currently over 40 million persons reside in medically or dentally designated underserved areas, many of these are populated predominantly by minorities (HRSA, Bureau of Health Professions, National Center for Health Workforce Information and Analysis, 2001).

In addition, Title VII, section 747 programs are dedicated to increasing the number of minority health care professionals, enrollees and faculty. Focusing on encouraging and preparing minority and disadvantaged students for success at the undergraduate level eventually provides a nationally representative pool of diverse students. The solution to achieving diversity in the health professions depends on the ability to recruit these persons into the educational pipeline of the health professions. This strategy determines not only their

ultimate representation in the workforce but, ultimately their influence on the educational process overall. The program's support for increasing diversity serves five major purposes.

The first purpose is to move minorities into the health profession in concert with their representation in the population. According to the 2000 census, underrepresented minorities comprise 25 percent of the Nation's population, but only 10 percent of all health professionals. In 1999, African Americans and Hispanics each constituted approximately 12 percent of the U.S. population but made up only 2.6 percent and 3.5 percent, respectively, of the physician workforce. Native Americans are even less well represented in medicine; they constitute just 0.7 percent of the population but merely 0.1 percent of America's doctors. In addition, the annual medical school enrollment of individuals from minority groups underrepresented in medicine, which was steadily growing until 1996, has since been on a steady decline, dropping from 2,340 for the 1995-96 school year to 1,922 for the 2000-01 school year. Enrollment in dental schools has seen an even greater decline. After a slight increase through the mid-90s, the size of the minority applicant pool and the number of minority students and graduates has steadily declined and is currently only 10 percent of all dental students. Since minority patients appear to be more satisfied with providers who are culturally attuned to their problems (study evidence suggests that racial and ethnic concordance between physician and patient results in greater patient satisfaction), efforts to reach the goal of parity—the same proportion of minority dentists and physicians as their representation in the general population—is a key to decreasing health disparities and improving the overall health of underserved minority populations (Community Voices, March 2001).

The second purpose in increasing the number of minority health professionals is that health professionals from minority backgrounds are more likely to choose to set up practices that address the needs of the underserved. Studies have established that minority health care professionals are five times more likely to practice in underserved communities and to treat larger numbers of minority patients, irrespective of income (DHHS, Comprehensive Performance Management System, 2000).

Third, studies have consistently shown that in training, racial diversity and student involvement in activities related to diversity have a direct and strong effect on learning and the way students conduct themselves in later life experiences. Only by encountering and inter-

acting with individuals from a variety of racial and ethnic backgrounds can students transcend their own built-in viewpoints. A heterogeneous campus and faculty helps students to recognize that their own opinions are influenced by their unique race, gender, origin, and socioeconomic status (Cohen, Gabriel, et al., 2002).

Fourth, greater diversity also augments the minority health care practitioners and public policymakers available to assume management roles in the future health care system and to contribute to governmental efforts that address important health care issues. Providing culturally effective health care services to an ever-more diverse population is bound to pose an increasingly difficult management challenge for provider organizations, public and private program managers, and State, local and National governments. Increasing the number of minority health professionals in management and policy-making roles in the future health care system will help ensure that decisions about matters such as resource allocation and program design are tailored to meet the needs of a diverse society (Cohen, Gabriel, et al., 2002).

"If we don't have at the table the diverse populations we serve, you can be sure that policymaking and program design are going to be exclusionary as well . . . and we're going to continue to have disparities if we don't start increasing diversity in the health professions"
(CEO of a Public Hospital quoted in Betancourt, Green, et al., 2002).

Lastly, the commitment of Title VII, section 747 programs to increasing the number of minority faculty will result in a broadening of the educational, training, and research agenda to encompass a greater emphasis on problems in neglected areas of societal need. Currently, there is an insufficient understanding of the problems affecting ethnic and minority populations. A great deal of additional clinical and health services research is needed to solve the problems that disproportionately affect minority populations. Results of this research can then be applied to innovative curricular development in educational training programs to improve the quality of care for all Americans.

SUMMARY OF ACCOMPLISHMENTS OF TITLE VII, SECTION 747

Title VII, section 747 of the Public Health Service Act has transformed the landscape of primary care training and practice in the United States by creating a diverse, broadly competent primary care medicine and

dentistry workforce. Over the past twenty five years, Title VII, section 747 has helped to develop and expand training programs for primary care providers, to promote diversity in the workforce, and to ensure that health professions curricula respond to the changing demands and emerging needs of the U.S. population. In addition, Title VII, section 747 programs are also designed to improve the Nation's health by training a quality health care workforce, particularly for those patients who live outside the economic and medical mainstream.

Title VII, section 747 programs are accomplished through the administration of competitive grants and cooperative agreements awarded to organizations that train and educate health care professionals at over 1,700 institutions. These grants are specifically focused on improving the quality, geographic distribution, and diversity of the health care workforce. Strategies used by Title VII, section 747 to solve the current maldistribution of health care providers and to improve access to quality health care include:

- Providing institutional incentives to health professions schools with a good track record for placing their graduates in underserved areas.

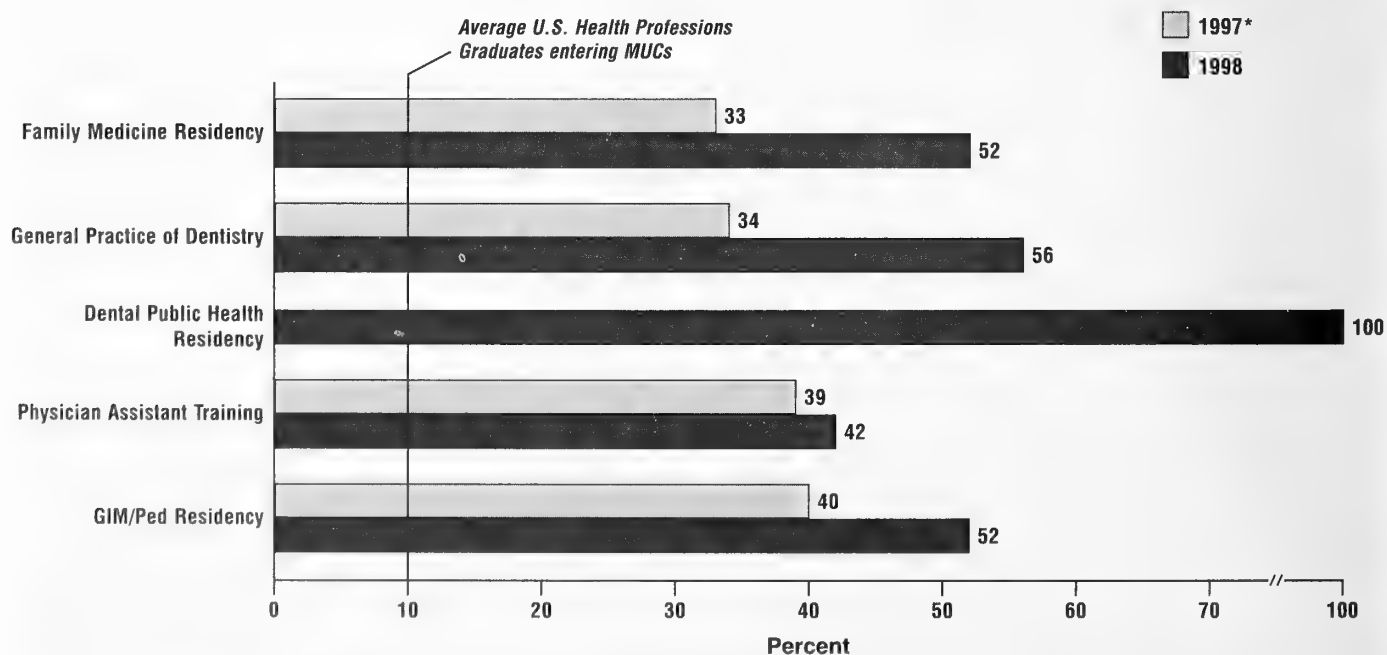
- Increasing the number of primary care providers from minority and disadvantaged backgrounds.
- Fostering community based health professionals' education and training in underserved areas.
- Supporting training that is directed at the special needs of underserved ethnic and minority populations.
- Enhancing services to underserved minority populations.

Title VII, section 747 has had a dramatic impact on primary care medical and dental training programs. The number of programs in family medicine, general internal medicine, general pediatrics, physician assistant, and general and pediatric dentistry have significantly expanded due to Title VII, section 747 support. Specifically, Title VII, section 747 funding has produced the following outcomes:

- Graduates of Title VII, section 747 enter primary care careers serving disadvantaged populations in medically underserved areas in far greater numbers than other health care graduates. As the following chart illustrates, Title VII, section 747 primary

DISTRIBUTION

BHPr-funded Medicine and Dentistry Program Graduates Are 3 - 10 Times More Likely to Practice in Medically Underserved Communities



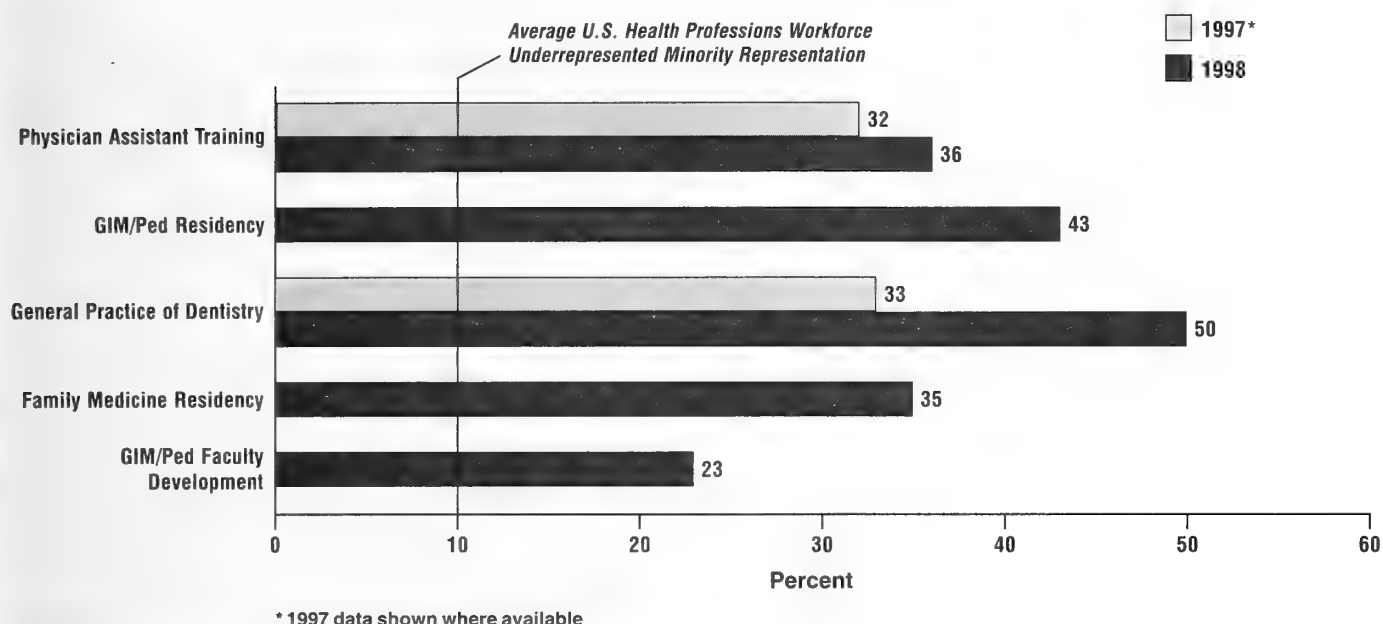
* 1997 data shown where available

1) Bureau of Health Professions (BHPr) Program Performance Data: BHPr CPMS.

2) Average U.S. Health Professions Graduates Entering MUCs, Caiman N., 1991, presentation to New York Council on Graduate Medical Education.

DIVERSITY

BHPr Supported Programs Graduate 2 - 5 Times More Minority and Disadvantaged Students



1) Bureau of Health Professions (BHPr) Program Performance Data: BHPr CPMS.

2) Average U.S. Health Professions Workforce Underrepresented Minority Representation, compiled by HRSA, Bureau of Health Professions, National Center for Health Workforce Information and Analysis, from U.S. Bureau of the Census data.

care graduates are **three to ten times** more likely to serve minority and disadvantaged populations as opposed to the U.S. health professions graduates overall. The program's greater emphasis on service to the underserved and the greater exposure of students to mentors who provide such care has made an important difference in student career choice.

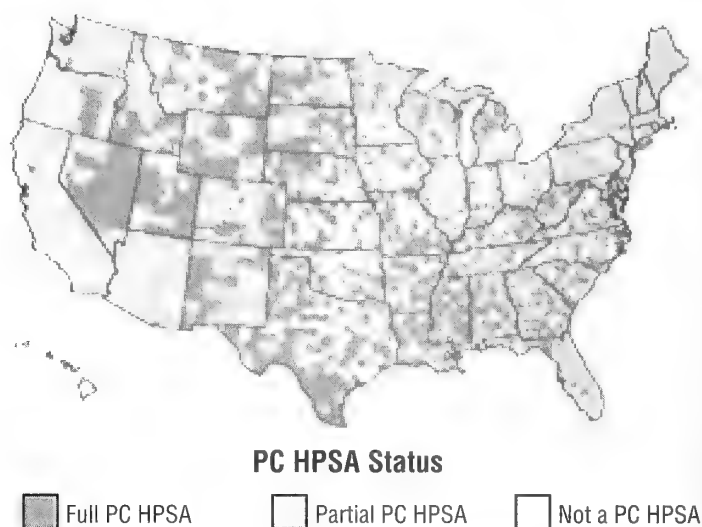
- Programs funded under Title VII, section 747 graduate **two to five times** more minority and disadvantaged students than other programs (see chart above). Increasing the number of minority graduates is critical to improving the diversity of the health care workforce and to expanding the numbers of practitioners in underserved communities. In 1998, underrepresented minority or disadvantaged groups comprised 35-50 percent of graduates of programs supported by Title VII, section 747 compared to a 10 percent minority representation among the U.S. health professions workforce overall. Evidence indicates that these graduates, on average, are **five times** more likely to practice in underserved communities and serve racial/ethnic and disadvantaged populations.

- Title VII, section 747 programs have significantly increased the number of minority and disadvantaged students in primary care medicine and dentistry education. Program initiatives have increased student interest, encouraged students to see health professions as a realistic career choice, and prepared interested students in elementary and high school to be able to succeed in the academically challenging work involved with an education in health care. The increasing number of minority and disadvantaged enrollees has helped develop a more diverse and culturally competent workforce. **These programs support, on average, the development of over 10,000 underrepresented minority residents, graduates, and faculty each year.**
- Title VII, section 747 programs have dramatically increased the number of underrepresented minorities serving as faculty. Studies indicate that the effectiveness of the health care workforce is dependent on its sensitivity to the cultural differences that affect health care. Faculty members who are from underrepresented minorities may often have unique insights into the cultural component of health care

and provide role models for future health care workers from underrepresented minority groups.

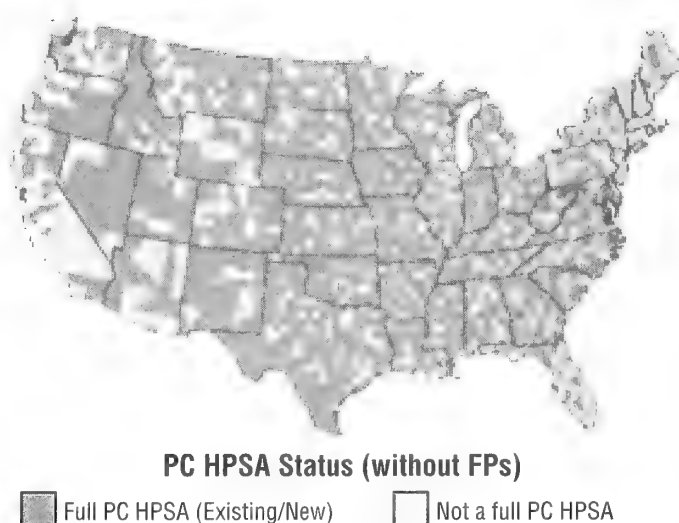
- Title VII, section 747 has significantly increased the number of family physicians that work in primary care health professional shortage areas (HPSAs). In a study published in the *Journal of Rural Health*, Politzer reports, “in 1997, Title VII funded programs increased the rate of graduates entering HPSAs, increasing the number of providers and reducing the time for HPSA elimination to 15 years.” The maps on this page illustrate the estimated increase in HPSAs across the Nation if Title VII, section 747 funds were eliminated and the number of family physicians substantially declined.
- The structure of the Nation’s education and training systems in the United States has changed permanently as a result of Title VII, section 747. Family medicine, general internal medicine and general pediatrics owe most of their growth and development to Title VII, section 747 support. Physician assistant training programs can be traced almost entirely to Title VII, section 747 support.
- Resources from Title VII, section 747 have dramatically altered the nature and quality of the medical and dental curricula made available to students and residents, influencing the quality and quantity of primary care training. Examples include innovative curricula in HIV/AIDS, bioterrorism, geriatrics, managed care, domestic violence, genetics, rural health and other areas of critical importance.
- Title VII, section 747 has used its capacity for rapid change to address the immediate and vital needs of the Nation by quickly making structural changes in the training of our health professionals. For example, when the Nation’s battle against substance abuse became a prime objective, Title VII, section 747 programs led to curricular changes in primary care residency programs to address this issue.
- Title VII, section 747 has also helped increase the primary care research capacity, which has led to

PRIMARY CARE HEALTH PERSONNEL SHORTAGE AREAS – BY COUNTY



Current status: Counties with full or partial primary care HPSA designation.

PRIMARY CARE HEALTH PERSONNEL SHORTAGE AREAS GIVEN REDUCTION OF FAMILY PHYSICIANS – BY COUNTY



Future status: This map shows the counties that would be full or partial primary care HPSAs given decline in family physicians.

Source (for both maps above): Robert Graham Center in Washington; Data from the Federal Bureau of Health Professions' Area Resource File for Physicians and HPSAs.

an expanded and higher quality knowledge base for practitioners, affecting both health care quality and patient safety. Title VII, section 747 has substantially increased the number and quality of primary

care research fellows completing training in family medicine, general internal medicine and general pediatrics. Primary care research had been limited in the past, due mainly to the lack of trained physician research staff capable of competing successfully for grants. The success of Title VII training, and the increase in the number of qualified primary care research fellows, has led to an expanded and higher quality knowledge base available to primary care practitioners, affecting both health care quality and patient safety.

- Title VII, section 747 has been the predominant resource for growth and expansion of general and pediatric dentistry residencies.

HEALTH DISPARITIES

Health disparities describe the disproportionate burden of disease, disability and death among a particular population or group. Studies indicate that the distribution of poor health and receipt of poor quality health care are skewed towards racial and ethnic minorities. This evidence has shown to be consistent across a wide range of illnesses and health care services. These disparities have been shown to remain even after socioeconomic differences (such as age, income, education, environment, employment) and other health care related factors (such as insurance status, co-morbid conditions and continuity of care) have been taken into account. The impact of these disparities results in increased mortality and morbidity, decreased quality of life and productivity, and overall increased health care costs.

Despite the unprecedented explosion in scientific knowledge and the phenomenal capacity of medicine to diagnose, treat and cure disease, Blacks, Hispanics, native American Indians and those of Asian/Pacific Islander Heritage have not benefited fully or equitably from the fruits of science or from those systems responsible for translating and using health sciences technology (Report of the Secretary's Task Force on Black and Minority Health, 1986).

Definition of Health Disparities

The IOM report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health* (Smedley, Stith, et al., 2002) reveals a large body of published research showing that racial and ethnic minorities experience a lower quality of health services and are less likely to receive even routine medical procedures than

are white Americans. The report provides a useful definition of health care disparities:

HEALTHCARE DISPARITIES are racial or ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences and appropriateness of intervention (Smedley, Stith, et al., 2002).

Health Disparity as a Quality Issue

"The burden of harm conveyed by the collective impact of all our health care quality problems is staggering" (Chassin, Gavin, et al., 1998).

There is strong recent evidence that the present U.S. health care delivery system does not provide consistent, high quality medical care to all people. Americans are frequently not able to count on receiving care that meets their needs or care that is based on the best scientific methods. Health care harms patients too frequently and routinely fails to deliver its potential benefits.

A recent IOM committee assessed the capacity of today's health care system by stating the following:

"In its current form, habits, and environment, American health care is incapable of providing the public with the quality health care it expects and deserves" (Institute of Medicine, 2002).

The IOM's report, *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001), makes an urgent call for fundamental change to close the quality gap. Building on the extensive evidence collected by the IOM committee and its predecessors, the report calls for six "Aims of Improvement" which the U.S. health care system (including all health care constituencies) should embrace. These aims are built around the core need for health care to be:

- **Safe** – Avoiding injuries to patients from the care that is intended to help them.
- **Effective** – Matching care to science, avoiding overuse of ineffective care and underuse of effective care.
- **Patient-centered** – Providing care that is respectful of, and responsive to, individual patient preferences and respects the patient's choices, culture, social context, and ensures that patient values guide all clinical decisions.

- **Timely** – Reducing waiting times and sometimes harmful delays for both patients and those who give care.
- **Efficient** – Reducing waste and, thereby, reducing the total cost of care (including waste of equipment, supplies, ideas, energy).
- **Equitable** – Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographical location and socioeconomic status.

A health care system that achieves major gains in these six areas will be more successful in addressing and meeting patient needs.

Breadth and Scope of Health and Health Care Disparities

U.S. DEMOGRAPHY

The U.S. is unique in the cultural and ethnic heterogeneity of its population, which is being further magnified by current population trends and shifting immigration patterns. According to U.S. Census Bureau projections, minority groups have increased from 13 percent of the population in 1950 to 30 percent of the population in 2000. Further, minorities are projected to account for 46 percent of the total population in 2050. More specifically, the Hispanic population is expected to double and comprise nearly one quarter of the U.S. population. The population of Asian and Pacific Islanders is expected to more than double from 4 percent in 2001 to 8.9 percent by 2050. As a result, the proportion of non-Hispanic whites will shrink from 71 percent in 2001 to approximately 53 percent in 2050. Given these trends, there is a strong expectation that health disparities will increase over time.

Further, the overall percentage of immigrants within each racial/ethnic group will continue to increase. This increase is shown somewhat among non-Hispanic whites (3.4 percent to 5.2 percent, but more among non-Hispanic blacks and African Americans (5.9 percent to 11.3 percent) in 2050. Conversely, this trend will decrease among Hispanics (35.6 percent to 20 percent) and Asian and Pacific Islanders (65.5 percent to 47.5 percent) (U.S. Census Bureau, Populations Projections, 2000).

DISPARITIES IN POPULACE ACCESS TO QUALITY HEALTH CARE

One component of health disparities involves access to quality health care. Racial and ethnic minori-

ties experience differences in the availability of linguistically and culturally appropriate health care providers and facilities. These differences are illustrated using measures such as usual source of care, number of preventable hospitalizations and utilization of preventive services (which are often used as proxies for an individual's access to and use of primary care). For example, data from the Medicare Current Beneficiary Survey (Gornick, 2000), 2001 Community Tracking Study Household Survey (Hargraves, 2002), and the 1998 National Health Interview Survey (Series 10, 2002) show that:

- Racial and ethnic minority groups are associated with lower overall health care use and with lower rates of primary care and oral health care access and use.
- Insurance coverage for Latinos (68 percent) and African Americans (81 percent) is significantly lower than coverage for whites (89 percent).
- Racial and ethnic minorities are less likely than their white counterparts to have a specific source of ongoing care. Hispanics in particular are less likely to have a usual primary care provider than their non-Hispanic white counterparts (36 percent vs. 21 percent).
- Low income, minority children are two to three times less likely to have a standing physician relationship and lack a usual source of care. (Newacheck, Hughes, et al., 1996).
- Among those who had a usual source of care, African Americans and Hispanics were more likely than whites to have hospital-based (as opposed to office-based) care.
- Non-white Medicare beneficiaries (for whom many preventive services require no cost sharing) have fewer cancer screenings, flu shots, ambulatory and physician visits than their white counterparts (Gornick, 2000).
- Racial and ethnic minorities are less likely than their white counterparts to have had a dental visit in the past year, more likely to have outstanding dental disease, and more likely to have untreated dental caries.

In addition, a series of IOM reports, the *Healthy People 2010* report, and other studies have provided comprehensive documentation of differences in diagnosis, referral patterns, treatment options and health outcomes for racial and ethnic minorities. For example,

- African Americans have the highest rate of morbidity from chronic disease. One-half (51 percent) said their doctor diagnosed them with at least one of seven conditions in the past five years – asthma, cancer, heart disease, diabetes, high blood pressure, obesity, or anxiety/depression.
- Heart disease death rates are more than 40 percent higher for African Americans than for whites.
- The infant death rate among African Americans is more than double that of whites.
- The death rate for all cancers is 30 percent higher for African Americans than for whites.
- African Americans were diagnosed more commonly with diabetes (13 percent) and asthma (10 percent) compared to 9 percent and 8 percent of the total population, respectively.
- Hispanics are almost twice as likely to die from diabetes as are non-Hispanic whites.

Although a major contributor to health disparities is the inability to access quality health care, various other factors interact to produce health disparities. Research investigating barriers to government-sponsored programs (e.g. Medicaid, State Children's Health Insurance Program) cite examples such as reliance on culturally inappropriate materials; fear of hidden costs; immigration concerns; stigma associated with receiving care through government programs; poor knowledge of primary care benefits; language/translation difficulties; prior negative experiences with a provider or the health care system; competing personal priorities; and indirect financial barriers such as transportation costs, daycare for other children, and job insecurity as other key contributors to health disparities. (Flores, Abreu, et al., 1999; Pulos, 1998).

DISPARITIES IN THE STRUCTURE OF HEALTH SYSTEMS AND PROCESSES OF CARE

A second component of health disparities includes what happens to a patient once he/she enters the health care system, or into the so-called "processes of care." Many sources, health systems, health care providers and utilization managers, contribute to racial and ethnic disparities in care. Focusing on the context within which patients interact with the health care system is of critical importance in addressing health care disparities and the resulting quality of care received. It is not just the difference in the health outcomes of populations, but the fraction of the difference attributable to the "operations of the health care system and the legal and regulatory climate in which health systems

function" that should be considered when addressing health disparities as a quality of care issue (Smedley, Stith, et al., 2002).

The most significant evidence of disparities in the processes of health care comes from the cardiovascular care literature, which suggests that disparities in medical evaluation, diagnosis, prescribed treatment and health outcomes remain, even after controlling for known confounding factors. The availability of data on cardiovascular care and the immediacy of health outcomes related to its treatment are more straightforward than in preventive oriented health care, such as primary and dental care, where outcomes may not be evident for decades and may not be as easily attributable to the care.

In general, process-level factors relating to health care disparities can originate from the provider, in the form of racism, stereotyping and discrimination which impacts history taking and clinical decision-making. Studies indicate that providers assess patients of different racial/ethnic backgrounds differently, when all factors but race/ethnicity are comparable (Ferguson, Weinberger, et al., 1998; Fiscella, Franks, et al., 2000). They can also originate from the patient, in the form of care expectations, perceptions of discrimination and distrust of the provider. These perceptions may be based on individual biases and stereotypes attributed to the provider or health care setting.

Recent research, however, has revealed a substantial lack of linguistically and culturally competent providers and staff in the health care workforce. Evidence exists that stereotyping, discrimination, racism, and uncertainty on the part of health care providers significantly contribute to unequal treatment. In addition, severe time pressures, a need to multi-task, and cost-containment conditions under which health professionals operate may hamper their ability to accurately assess presenting symptoms of minority patients, particularly where cultural or linguistic barriers are present.

In addition, there is a geographic mal-distribution of providers that disproportionately impacts low-income, minority communities. The trend of health professionals to locate and practice in suburban and more affluent urban areas has restricted health care access of low income and particularly, low-income minority individuals. Further, the availability of health care resources, such as pharmacies, critical to illness recovery and disease management, are either unavailable or do not carry the full complement of supplies and medications as those in more affluent neighborhoods (Morrison, Wallenstein, et al., 2000). A recent expansion

in community health centers and new health facilities in previously underserved areas has provided valuable service in underserved areas. **However, to address disparities in care, such an expansion of service areas requires a comparable expansion in the primary care education and training system for those practitioners serving these communities.**

CULTURAL COMPETENCY AND EFFECTIVENESS

The provision of culturally effective care is critical to the delivery of quality health care for all Americans. Experts draw clear links between cultural competence, quality improvement, and the elimination of racial or ethnic disparities in care (Betancourt, Green, et al., 2002). In particular, culturally effective care is essential to the elimination of health care disparities for the large and growing minority segments of the U.S. population.

A key role of Title VII, section 747 programs is to introduce, educate, and assess learners in regards to cultural competency. The effectiveness of the health care workforce is dependent on its sensitivity to the cultural differences that affect health care. Preparing a culturally competent health care workforce trained to provide culturally effective care is a national priority of Title VII, section 747 programs.

Definition of Cultural Competency and Culturally Effective Care

Culture has been defined as an integrated pattern of learned beliefs and behaviors that can be shared among groups. It includes thoughts, styles of communicating, ways of interacting, views on roles and relationships, values, practices, and customs. Culture is shaped by multiple influences, including race, ethnicity, nationality, language and gender, but also extends to socioeconomic status and other factors (Betancourt, Green, et al., 2002).

The field of “cultural competence” in health care has emerged to address the factors that contribute to racial and ethnic disparities in care.

CULTURAL COMPETENCE in health care describes the ability of systems to provide care to the patients with diverse values, beliefs and behaviors, including tailored delivery to meet patient's social cultural and linguistic needs (Betancourt, Green, et al., 2002).

Culturally effective care is a system of care that acknowledges and incorporates—at all levels—the importance of culture; and the adaptation of services to meet culturally unique needs; and an awareness of the integration and interaction of health beliefs and behaviors, disease prevalence and incidence, and treatment outcomes for different patient populations (Lavizzo-Mourey, 2003). Culturally effective care addresses the component of health care disparity that is related to the performance of the primary care provider at the point of care. This is related to a set of attitudes, knowledge, and skills that influence the continuity and quality of health care provided.

In general, culturally effective activities can be categorized into three main areas (Brach and Fraser, 2000):

- 1) The provision of direct service designed to meet disparate language needs (interpreters and linguistic competency in health education materials).
- 2) The incorporation of staff who retain a cultural understanding and/or similarity with their patients in the provision of care (use of staff who share cultural background, inclusion of family, inclusion of traditional healers or folk remedies, use of community health workers, et. cetera).
- 3) Institutional accommodation (clinic location, hours of operation, physical environment, increasing ability of professionals to interact effectively within the culture of the patient population).

Cultural Competence and Health Care Disparities

With the increased attention given to racial and ethnic disparities in health care, there has been greater examination of the role that patient-physician communication plays. Recent data from the Commonwealth Fund 2001 Healthcare Quality Survey (Collins, Hughes, et al., 2002) showed that:

- **Communication** – Communication between patients and physicians is more problematic among African Americans, Hispanics and Asian Americans than among whites. Thirty-three percent of Hispanics, 27 percent of Asian Americans, and 23 percent of African Americans said that either their doctor did not listen to everything they said or they did not fully understand their doctor, compared to 16 percent of whites.
- **Respect** – African Americans (16 percent) and Hispanics (18 percent) were more likely than whites to

feel that they had been treated with disrespect during a health care visit. The reasons for feeling this way were most often related to aspects of communication.

- **Listening and Empathy** – Asian Americans were least likely to feel that their doctor understood their background and values and were most likely to report that their doctor looked down on them. Less than half of Asian Americans reported that they felt their physicians listened to everything they have to say (49 percent) or that they understand everything their doctor says (48 percent). This compares to 68 percent and 69 percent of the white population, respectively.
- **Patient Confidence** – Only 57 percent of Hispanics and 54 percent of Asian Americans expressed a great deal of confidence in their doctor, compared with 69 percent of African Americans and 72 percent of whites. Among Spanish-speaking Hispanics, only 44 percent expressed a great deal of confidence in their doctor.

These studies provide strong evidence of the importance of providing culturally effective care to open clear communication between patients and their physicians. The need for such communication is demonstrated by the striking proportion of minority patients who reported problems in communicating with their physician; the large number of minority patients who do not follow their doctors' advice; and the many Hispanic and Asian American patients who, in part because of language difficulties, are not able to fully understand physicians' written instructions and other medical information. Although being insured and having a regular doctor both lead to improved experiences, these two factors do not fully compensate for differences in personal interaction that can affect the overall quality of health care encounters (Collins, Hughes, et al., 2002).

Delivering Culturally Competent Care

As detailed in the IOM report, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health* (Smedley, Stith, et al., 2002) and other studies, providers' conscious and subconscious beliefs and perceptions about their patients can influence interpretations of patient symptoms and interpersonal interactions with the patient. These, in turn, impact the type and effectiveness of the treatment delivered. Evidence suggests that provider beliefs about patients and provider behavior during the clinical encounter are independently influenced by a patient's racial and ethnic background.

Specifically, there is a negative association between racial/ethnic minority status and both the quality of health care received and positive health outcomes, even after accounting for treatment site, insurance status and other patient characteristics. Such evidence highlights the distinct role that culturally effective care can play in addressing disparities, as it can directly intervene on the provider beliefs and attitudes which impact the processes of health care delivery.

The capacity of the primary care provider to deliver care that draws people into the health care system by valuing diversity and communicating effectively can be described in a spectrum such as:

Communication ▲ Patient Satisfaction ▲ Adherence ▲ Positive Health Outcomes

These positive health outcomes lead to improved quality of care and a reduction in health disparities for ethnic and minority populations (Betancourt, presentation to ACTPCMD, 2003).

"What we're talking about in terms of cultural competency. . . is providing quality care to individuals who in the past have not received it and when I think of quality care, that's what we're looking for for all Americans" (Administrator, DHHS quoted in Betancourt, Green, et al. (2002).

Given the rapidly changing U.S. demography, the majority of future health care professionals will be called upon to care for a significant percentage of patients with backgrounds different than their own. To do so effectively, health care providers must have a firm understanding of how and why different belief systems, cultural biases, ethnic origins, family structures and other culturally determined factors influence the manner in which people experience illness, adhere to medical advice, and respond to treatment. Studies have established that such differences are real and translate into real differences in the outcomes of care. Physicians and other health care professionals who are unmindful of the potential impact of language barriers, various religious taboos, unconventional explanatory models of disease, or traditional "alternative" remedies are not only unlikely to reach high patient satisfaction, but, even more importantly, are also unlikely to provide their patients with optimally effective care (Cohen, Gabriel, et al., 2002). As with other health professionals, primary care and oral health care providers have relied on their own personal experience and anecdotes of colleagues to understand health care delivery in a diverse population.

Consistent and comprehensive education in medical school, training during residency, and continuing education on the scope of health care and health disparities and how to provide culturally effective care are needed.

Cultural Competency Training in Primary Care Medicine and Dentistry

Few training programs currently provide any formal education about culture and its relationship to health. Recent efforts have been ongoing to attempt to develop curriculum guidelines and standards, but, currently, none are widely used in medical education. For example, in 2001, the U.S. Department of Health and Human Services released national standards regarding the provision of linguistically and culturally appropriate health care services. In addition, the Robert Wood Johnson Foundation is currently developing a model curriculum to teach cultural competency as well as developing cultural competency “benchmarks.”

Health care providers are entering the workforce with little or no training in psycho-social issues. Training programs must be encouraged to incorporate multicultural education into their curricula to equip health care providers with the tools and skills needed to provide appropriate culturally effective care. This includes incorporating educational modules that emphasize cross-cultural training, effective communication, and an awareness of the impact of social and cultural factors on health beliefs and behaviors.

The Society of Teachers of Family Medicine’s Task force on Multicultural Health Care and Education has recently developed guidelines on training in culturally effective health care, which follow the curricular guidelines previously published by the American Academy of Family Physicians. These curricular models and guidelines are designed to introduce topics related to culture, health and illness into residency training and graduate medical education (Like, Steiner, et al., 1996). In addition, the 2003 ACTPCMD members discussed ways that this should be accomplished. Established guidelines include the following:

- The implementation is recommended to be long term—from the undergraduate level to the graduate level and fellowship level.
- For undergraduates, applicable social issues, such as cultural competency, should be incorporated into aspects of the curriculum.
- For medical students, cultural competency should be integrated into the curriculum. Portions of the

curricula should be entered into required courses and electives that extend over the pre-clinical and clinical years.

- For residency training programs, the learning experiences should be offered throughout the residency training. That is, culturally effective health care should be integrated into existing educational clinical activities, including hospital attending rounds, morning report, grand rounds, lecture series, clinical case conferences, morbidity and mortality rounds, et cetera.
- Elective experiences, which involve work with specific minority, ethnic or cultural groups or placements in multi-cultural settings are also recommended.
- Specific intercultural training strategies should include cognitive training, behavior modification, experiential learning, cultural self-awareness and attribution training.
- An emphasis should be placed on the development of communication skills. There should be an awareness of language differences; the patient’s cultural background, beliefs and behaviors; and approaches to address these differences.
- Testing on cultural competency should occur at multiple levels of the educational process.
- Residents should receive training in public health and community-oriented primary care, as well as cultural competency.
- Faculty need to be trained and encouraged to make time for curriculum development.
- Ongoing faculty development activities are strongly recommended to deal with potential areas of discomfort and resistance and to identify attitudes, knowledge, and skills that need to be further improved or strengthened.
- Interdisciplinary collaborative work with behavioral and social scientists who have expertise in clinically applied anthropology is highly desirable.
- Actual implementation strategies need to vary across residency programs and should be individualized to cover issues relating to the specific socio-cultural groups in need of and receiving health care in the local communities.

Title VII, section 747 has the ability to make cultural competency an integral part of providers’ training by rapidly inducing across-the-board structural changes in the curricula of medical and dental schools. Title VII, section 747 programs use incentives to introduce and encourage guidelines for model curricula

to medical and dental schools throughout the Nation, impacting changes in undergraduate and graduate curricula as well as faculty development. No other Federal vehicle exists to create such structural changes.

Cultural Competency as a Quality Issue

Cultural competency is increasingly viewed as an on-going process in quality improvement. An organization that is culturally competent continually identifies areas that are deficient and develops interventions to address the deficiencies. An important consideration in using standards and guidelines is that they do not merely provide a checklist of attributes or traits that define a racial/ethnic population, which can serve to perpetuate stereotypes. Instead, the incorporation of cultural competence within the larger social context of the community or neighborhood can reduce the likelihood of stereotyping, particularly since socioeconomic factors account for a large portion of observed disparities. Techniques used in the provision of culturally effective care include:

- Tangible and intangible activities as the provision of interpreter services.
- The recruitment and retention of minority staff.
- Cultural competency training.
- Coordination of health professionals with traditional healers.
- The use of community health workers.
- Culturally competent health promotion.
- The involvement of family and/or community members.
- The immersion into another culture.
- Administrative and organizational accommodations (Brach and Fraser, 2000).

The ultimate goal is a health care system and workforce that can deliver the highest quality of care to every patient, regardless of race, ethnicity, cultural background or English proficiency.

DELIVERY OF PRIMARY CARE MEDICINE AND DENTISTRY

Primary care professionals provide the greatest source of care continuity and integration of health care. The aims of primary care are to provide the patient with a broad spectrum of care, both preventive and curative, over a period of time as well as to coordinate all of the care the patient receives.

PRIMARY CARE is the provision of integrated, accessible healthcare services by clinicians who are accountable for addressing a large majority of personal healthcare needs, developing a sustained partnership with patients, and practicing in the context of family and community (Donaldson, Yordy, et al., 1996).

Challenges to the Delivery of Primary Care Medicine and Dentistry

Primary care practitioners face many challenges in providing quality care to ethnic and minority populations. These challenges include the following:

- **Low provider awareness/understanding of health disparity prevalence.**
- **Limited provider awareness of how to deliver culturally effective care.**
- **Absence of relevant education** across all levels of training (school to practice).
- **Poor cross-cultural communication** between providers and patients of different racial, ethnic, or cultural backgrounds. When health care providers fail to understand socio-cultural differences between themselves and their patients, the communication and trust between them may suffer. This leads to patient dissatisfaction, poor adherence to medications and health promotion strategies, and poorer health outcomes. Further, providers may resort to stereotyping, which can affect their behavior and clinical decision-making (Betancourt, Green, et al., 2002).

"Our healthcare system is complicated for all . . . you can just imagine trying to navigate it if you have limited-English proficiency or a different understanding of health and healthcare" (Practicing physician quoted in Betancourt, Green, et al., 2002).

- **Poorly designed systems of care** to meet the needs of diverse patient populations. Systems lacking interpreter services or culturally and linguistically appropriate services and materials lead to patient dissatisfaction, poor comprehension and adherence, and lower-quality care (Betancourt, Green, et al., 2002).
- **Lack of diversity** in health care's leadership and workforce. While it cannot be assumed that providers of the same racial/ethnic background of a patient are providing culturally effective, high quality care, there is a general consensus that improved

recruitment and enrollment of minority providers will help address many of the cultural and linguistic barriers to care as well as minimize the potential for racial discrimination in diagnosis, referral patterns and therapeutic treatment (Smedley, Stith, et al., 2002). Studies on racial concordance between patient and provider show higher rates of patient satisfaction and compliance with the health care regimen (Saha, Komaromy, et al., 1999; Cooper-Patrick, Ford, et al. 2000).

Currently, the distribution of racial and ethnic minorities in schools for health occupations (e.g. dentistry, medicine, nursing) are disproportionately lower than their respective distribution within the general population. Underrepresented minorities comprise 25 percent of the Nation's population, but only 10 percent of all health professionals. Specifically, minorities make up only 3 percent of medical school faculty, 17 percent of all city and county health officers and 2 percent of senior leaders in health care management.

- **Limited availability of appropriate data sources and systems** at relevant units of analysis to monitor health disparities (e.g. National data is not always applicable to the facility or institution level). Unlike in other countries, where national health care systems facilitate more systematic and longitudinal data collection, studies on U.S. populations have been limited by the cross-sectional nature of most large datasets and cannot capture the dynamic interrelationship of race/ethnicity, socioeconomic status, health care and health over time. This is particularly problematic from a primary care and oral health standpoint, as relevant health outcomes are not immediately appreciated, unlike with acute and emergent care. Instead, there is a reliance on more proximal measures of primary care and oral health care effectiveness, which include having a usual source of care and utilization of primary and oral health services.
- **Lack of quality process or outcome measures**, or performance measures, that can be monitored and evaluated with respect to the needs of multicultural and minority populations. For example, the number of medical errors that result from language barriers (i.e., taking a prescribed medication incorrectly or misunderstanding health education materials).

Achieving cultural competence in health care would remove these barriers, supplanting the one-size-fits-all approach with a system more responsive to the needs of an increasingly diverse population.

Primary Care Practice

Title VII, section 747 programs support the primary care disciplines of family physicians, general internists, general pediatricians, physician assistants, and general and pediatric dentists. These primary care professionals ideally represent the “medical home” for a patient, responsible for providing and/or managing all aspects of a patients’ health care. The primary care disciplines funded through Title VII, section 747 programs are described in detail below.

- **Family Medicine** – Family medicine is the medical specialty that integrates the biological, clinical, and behavioral sciences providing continuing and comprehensive health care to patients of all ages, both sexes and every disease entity.
- **General Internal Medicine** – Internal medicine is the medical specialty that specializes in health care of adults of both sexes, from young adulthood to the elderly; with expertise in a spectrum that includes general and comprehensive care of ambulatory patients with an emphasis on prevention, screening, and the behavioral and ethical aspects of health and disease.
- **General Pediatrics** – Pediatricians practice the specialty of medical science concerned with the physical, emotional, and social health of children from birth to young adulthood; with services ranging from preventive health care to the diagnosis and treatment of acute and chronic diseases with an emphasis on continuity of care.
- **Medicine-Pediatrics** – Medicine-Pediatrics providers possess the core knowledge and skills of general internists and general pediatricians.
- **Physician Assistants** – PAs are licensed health care professionals who practice medicine with physician supervision.
- **General Dentistry** – General dentistry is the profession responsible for the diagnosis, treatment, management, and overall coordination of services that address patients’ oral health needs.
- **Pediatric Dentistry** – Pediatric dentistry is an age-defined dental specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.

The need and corresponding demand for primary care practitioners have increased enormously over the past 30 years. Unlike other fields and specialty areas

of medicine, primary care providers have a unique ability to impact health both before illness onset (through counseling and prevention) and after disease onset (through treatment/maintenance). Specifically, primary care has been associated with improved overall access to the health care system, reduced emergency room and hospital outpatient services, better management of routine illness (e.g. sore throats) and chronic diseases (e.g. diabetes), lower rates of preventable hospitalizations, and lower cardiovascular disease (Blumenthal, Mort, et al., 1995).

Primary care providers touch the lives of more Americans than any other group of clinicians. Two-thirds of all Americans interact with a primary care provider every year.

The ability of these providers to reach populations before illness onset is critical to addressing disparities in care. Primary care and oral health care providers not only impact the quality of health care delivered, they also have influence on the individual behaviors that impact health outcomes above and beyond health care. Effective primary care delivery is of particular importance in efforts to eliminate health disparities because it is considered to be an affordable and cost-effective approach to generating and maintaining positive health outcomes (Starfield and Simpson, 1993).

CONCLUSIONS

The Advisory Committee's deliberations and review of available data have led to the central conclusion that Title VII, section 747 has had a clear record of success with respect to its multiple objectives over the past 25 years. The Advisory Committee recommends that Title VII, section 747 be used as a significant strategy to increase the cultural competency of the health care workforce to help eliminate health care disparities. Title VII, section 747 is the major vehicle for influencing the content and capacity of primary care education and training in the United States. As such, it is the ideal mechanism for increasing the awareness and understanding of health care disparities among providers and the impact of race, ethnicity and culture on clinical decision making, as well as developing the educational infrastructure to address these needs.

The Advisory Committee further finds that the need for an emphasis on culturally competent care is substantial and will only increase over time. According to U.S. Census Bureau projections, minority groups have increased from 13 percent of the population in 1950

to 30 percent of the population in 2000 and are projected to account for 46 percent of the total population by 2050. As such, it is imperative that primary care practitioners be trained to deliver both technically and culturally effective health care. Given the broad population reach and first contact aspect of primary and dental health care, primary care providers are instrumental in efforts to improve the public health.

The Advisory Committee held extensive discussions on the role of Title VII, section 747 in educating faculty and health professional trainees in cultural competency to ensure the delivery of culturally effective care. The Advisory Committee concluded that Title VII, section 747 training programs could increase the awareness and understanding of racial and ethnic health disparities and the importance of socio-cultural factors on health beliefs and behaviors; develop human resource skills for cross-cultural assessment, communication and negotiation; increase the awareness of stereotyping and strategies to address this problem; and help develop the educational infrastructure to address these needs. Title VII, section 747 funded activities are an important tool in improving the overall quality of health care for all Americans.

The Advisory Committee also believes that Title VII, section 747 must remain committed to improving the access to quality care for minority and underserved populations as well as dedicated to increasing the number of minority health care professionals, enrollees and faculty. Title VII, section 747 is essential in helping to solve the current mal-distribution of health care workers by educating and training future practitioners to care for the minority and underserved populations often left behind by the largely private systems of care in this country.

Since Title VII, section 747 programs train primary care providers to serve medically underserved populations, it is even more essential that these providers be specifically trained in cultural competency. In 2001, the current administration invested over \$1 billion in the development of community health centers across the country, as well as the establishment of new health care facilities in previously underserved areas. Such an expansion of services for medically underserved populations requires a comparable expansion in the primary care education and training system for those practitioners who will serve on these front lines. The costs of not investing in the education and training of our primary care providers will have critical ramifications and serve to increase health disparities and our national health care costs.

Last, the Advisory Committee encourages Title VII, section 747 programs to facilitate further collaborations among public health and primary care medical providers and dentists to encourage collaborative training practices that incorporate cultural competency. This recommendation follows the findings of the Advisory Committee's second report entitled *"Delivering the Good: Improving the Public Health By Enhancing the Primary Care/Public Health Interface in the United States."*

RECOMMENDATIONS

1. Title VII, section 747 requires continuing support and additional funding to avoid undermining the effectiveness of America's primary care training infrastructure.

These training programs are critical in ensuring that primary care providers are ready to respond to the emerging health care needs of the population. Primary care providers play an important role in the rapidly changing health care environment.

2. Priority must be given to primary care training programs that emphasize health disparities as a quality of care issue and the critical role of cultural competency in the delivery of quality care.

Title VII, section 747 programs should be encouraged to:

- ❖ Develop incentives for curricula that teach the basic principles of quality improvement. In the teaching of quality improvement, programs should look at specific health indicators by gender, race and ethnicity.
- ❖ Develop programs in cultural competency as a required, integrated, component of the training and professional development of healthcare providers. Such programs should emphasize the importance of socio-cultural factors on health beliefs and behaviors and the effect of race, ethnicity and culture on clinical decision-making and cost of care.
- ❖ Define minimal cultural competencies needed for providers, define curricula to develop these competencies, and establish procedures for assessing these competencies in trainees. Ensure that cultural competency training is didactic (classroom based), experiential (applied) and provide service learning with community organizations and groups. Further, the use of web-based technology is encouraged to reach the broadest base of primary care medicine and dentistry providers.

- ❖ Develop incentives for recruitment, development and support of faculty to teach cultural competency.

- ❖ Encourage collaboration among HRSA and other publicly and privately funded programs to develop, implement and evaluate training programs that increase cultural competency.

- ❖ Encourage interdisciplinary research and collaborations among HRSA, public health faculty, social and behavioral scientists, and medical and dental faculty to facilitate the development and assessment of training practices that incorporate cultural competency.

- ❖ Encourage accrediting bodies to develop standards that ensure up-to-date education about health disparities and provide cultural competency training for all levels of learners (i.e., students, residents, faculty and community healthcare providers).

3. The Secretary should convene a working group from HRSA, NIH, CDC, AHRQ, and other government agencies to collaborate on ensuring that new knowledge about health care disparities is translated into primary care education and practice.

In support of these recommendations, the Advisory Committee proposes a budget of \$198 million for Title VII, section 747 discipline-specific and interdisciplinary projects. This funding level, as initially addressed in the Committee's first report, will result in a major pay-off in the provision of quality, accessible, culturally effective care—a substantial and key step towards the elimination of health disparities and the provision of quality health care for all Americans. Title VII remains a modest investment, but, as has been demonstrated, one with substantial future payoffs in terms of achieving high quality health care for all Americans and reducing the disparities that now exist in health status, health outcomes and basic access to care.

APPENDIX

The attached appendix illustrates the disparities in care for racial and ethnic minorities in the United States. Specifically the appendix documents the disparities in care for Whites, Blacks, and Hispanics by State for the leading health indicators of (1) infant mortality (2) diabetes prevalence, (3) dental visits, and (4) age-adjusted death rates.

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APPENDIX A

HEALTH DISPARITIES BY STATE

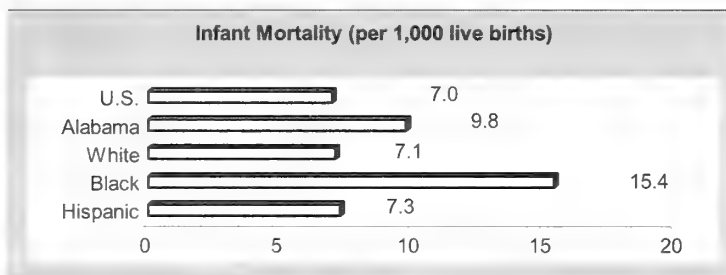
This appendix illustrates the disparities in care for racial and ethnic minorities in the United States. Specifically the appendix documents the disparities in care for Whites, Blacks, and Hispanics by State for the leading health indicators of (1) infant mortality (2) diabetes prevalence, (3) dental visits, and (4) age-adjusted death rates.

ALABAMA

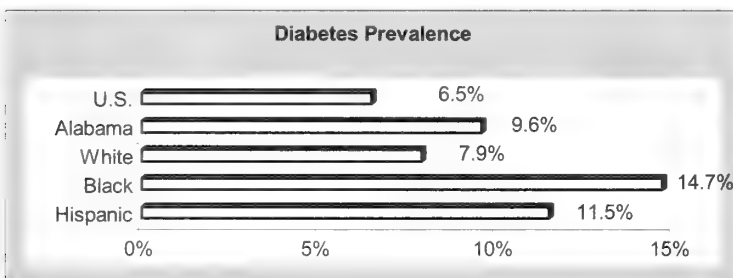
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		4,252,000	5,224,000	22.9%
ALABAMA	White	3,121,000	3,780,000	21.1%
	Black or African American	1,087,000	1,364,000	25.5%
	Asian or Pacific Islander	28,000	57,000	103.6%
	American Indian, Eskimo, or Aleut	16,000	23,000	43.8%
	Hispanic	32,000	63,000	96.9%

LEADING HEALTH INDICATORS

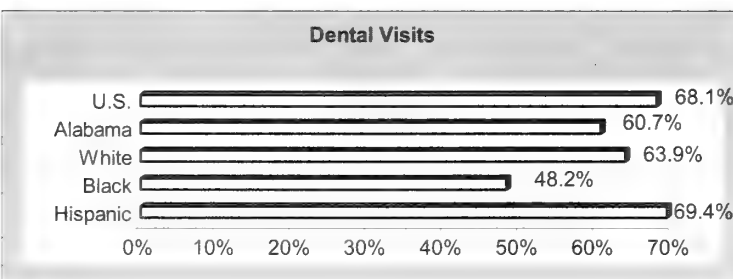
Infant Mortality (per 1,000 live births)²



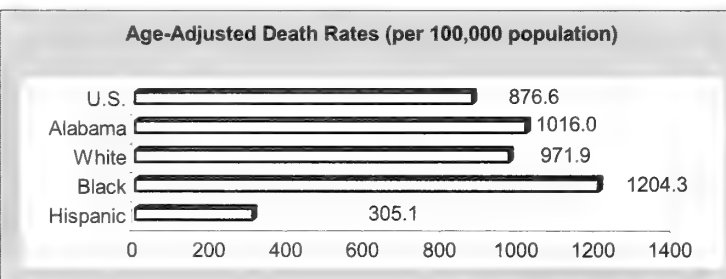
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

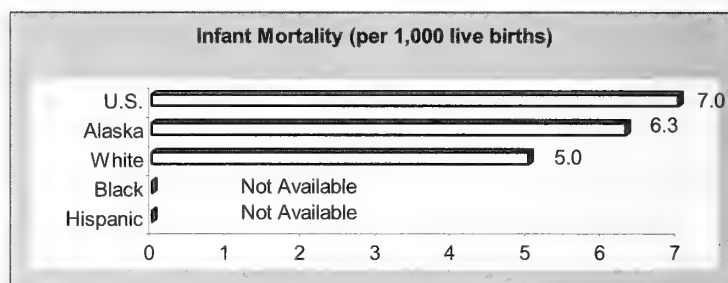
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

ALASKA

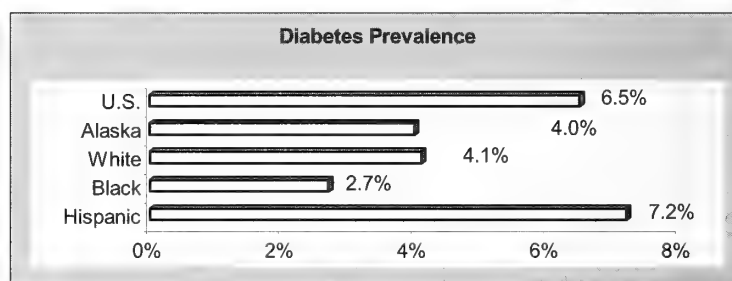
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		606,000	885,000	46.0%
ALASKA	White	460,000	558,000	21.3%
	Black or African American	26,000	39,000	50.0%
	Asian or Pacific Islander	28,000	193,000	589.3%
	American Indian, Eskimo, or Aleut	92,000	95,000	3.3%
	Hispanic	25,000	59,000	136.0%

LEADING HEALTH INDICATORS

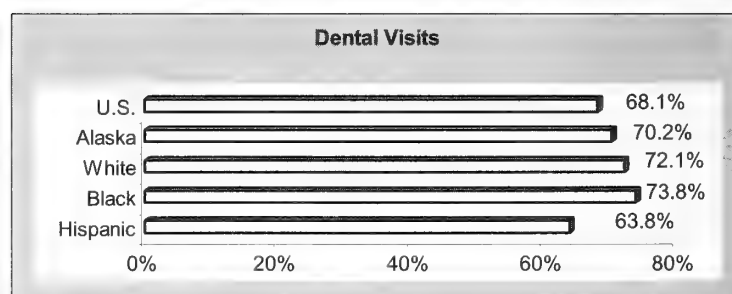
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵

Information on age-adjusted death rates is not available for Alaska.

¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

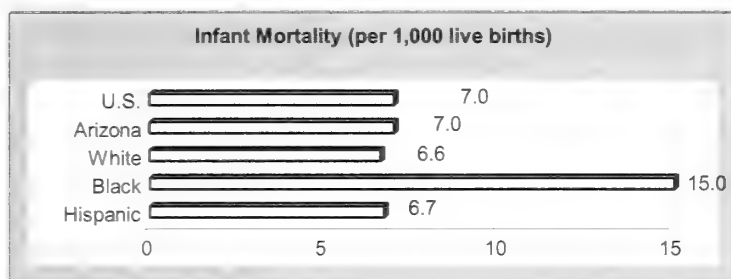
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

ARIZONA

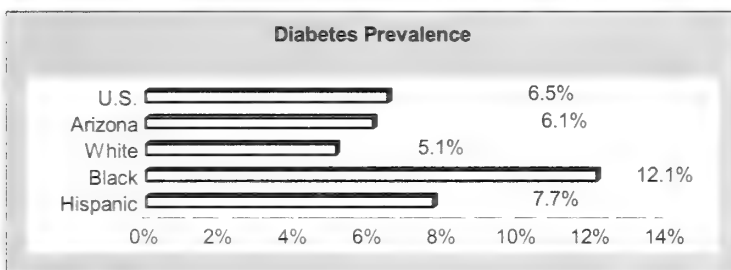
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		4,218,000	6,411,000	52.0%
ARIZONA	White	3,748,000	5,599,000	49.4%
	Black or African American	146,000	285,000	95.2%
	Asian or Pacific Islander	80,000	195,000	143.8%
	American Indian, Eskimo, or Aleut	244,000	332,000	36.1%
	Hispanic	868,000	2,065,000	137.9%

LEADING HEALTH INDICATORS

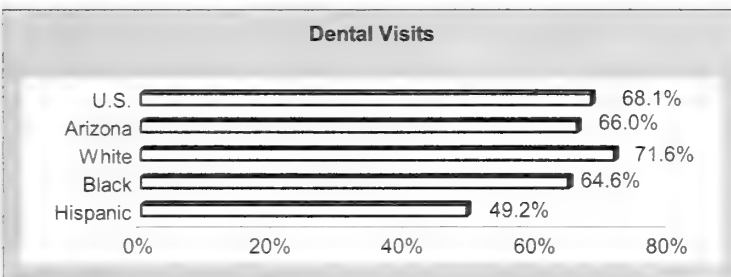
Infant Mortality (per 1,000 live births)²



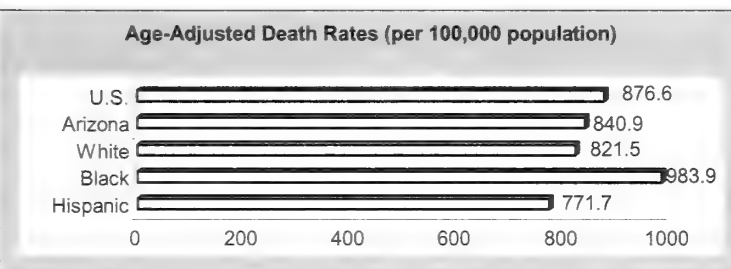
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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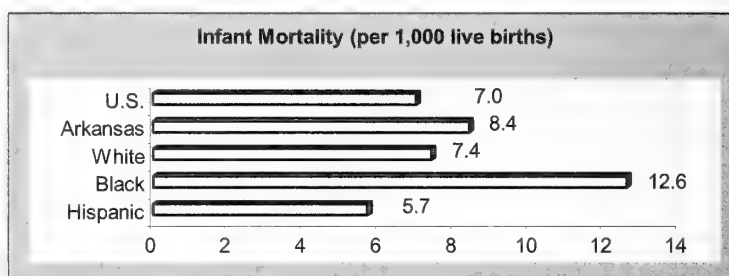
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

ARKANSAS

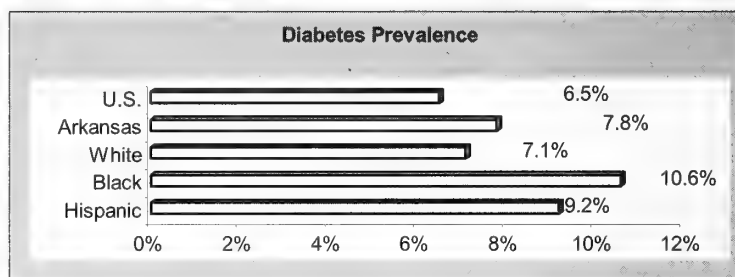
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		2,484,000	3,056,000	23.0%
ARKANSAS	White	2,061,000	2,536,000	23.0%
	Black or African American	394,000	468,000	18.8%
	Asian or Pacific Islander	15,000	32,000	113.3%
	American Indian, Eskimo, or Aleut	14,000	20,000	42.9%
	Hispanic	27,000	67,000	148.1%

LEADING HEALTH INDICATORS

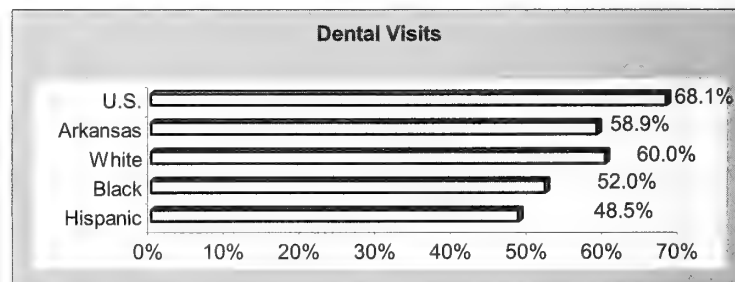
Infant Mortality (per 1,000 live births)²



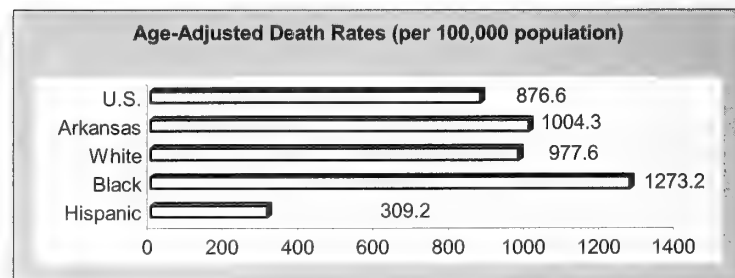
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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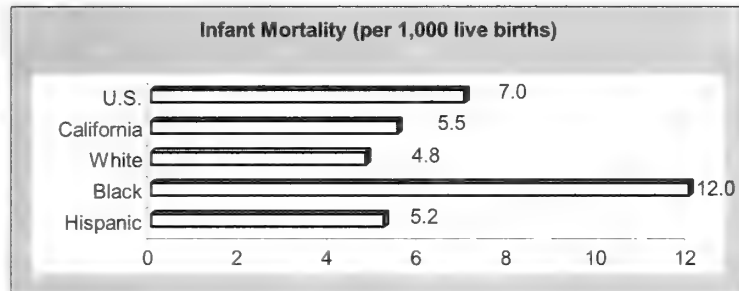
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

CALIFORNIA

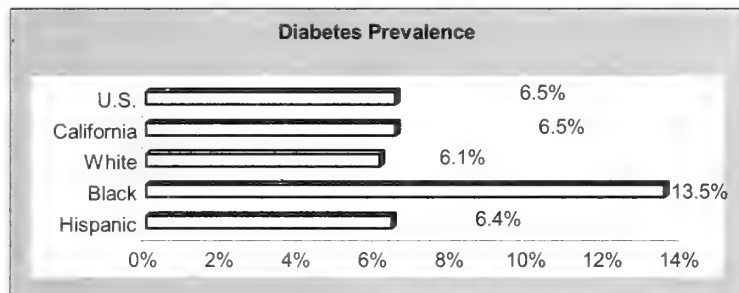
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		31,589,000	49,285,000	56.0%
CALIFORNIA	White	25,249,000	36,388,000	44.1%
	Black or African American	2,414,000	3,426,000	41.9%
	Asian or Pacific Islander	3,627,000	9,078,000	150.3%
	American Indian, Eskimo, or Aleut	299,000	393,000	31.4%
	Hispanic	9,206,000	21,232,000	130.6%

LEADING HEALTH INDICATORS

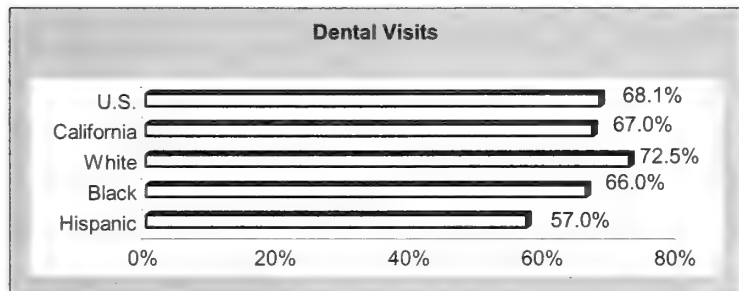
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵

Information on age-adjusted death rates is not available for California

¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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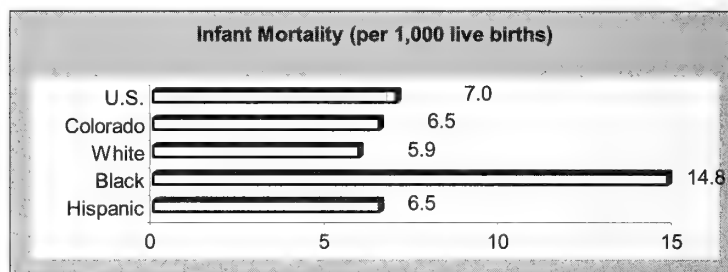
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

COLORADO

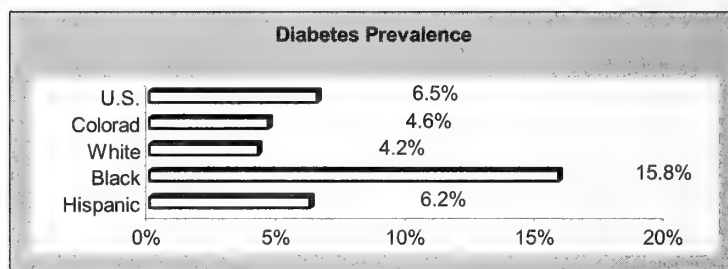
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		3,746,000	5,190,000	38.5%
COLORADO	White	3,465,000	4,621,000	33.4%
	Black or African American	164,000	309,000	88.4%
	Asian or Pacific Islander	82,000	199,000	142.7%
	American Indian, Eskimo, or Aleut	35,000	61,000	74.3%
	Hispanic	507,000	1,067,000	110.5%

LEADING HEALTH INDICATORS

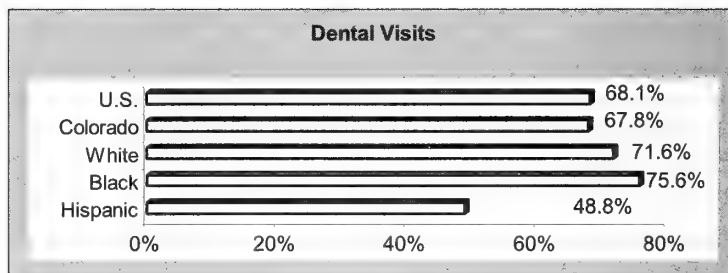
Infant Mortality (per 1,000 live births)²



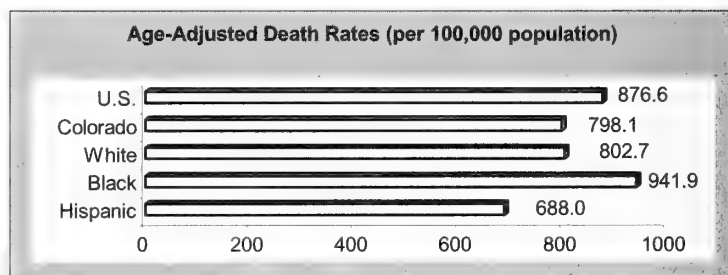
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

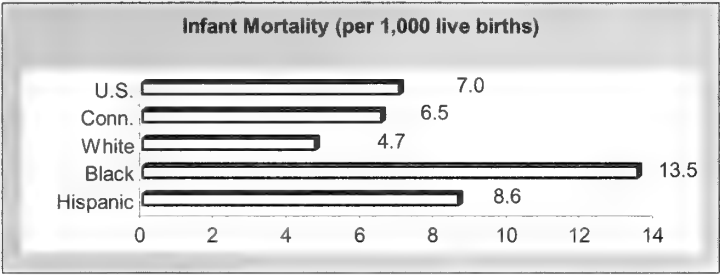
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

CONNECTICUT

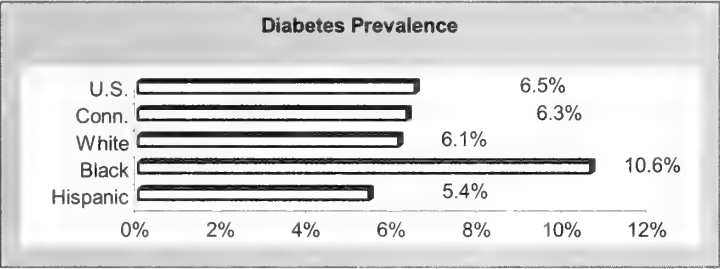
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		3,277,000	3,737,000	14.0%
CONNECTICUT	White	2,902,000	3,065,000	5.6%
	Black or African American	300,000	490,000	63.3%
	Asian or Pacific Islander	67,000	171,000	155.2%
	American Indian, Eskimo, or Aleut	8,000	11,000	37.5%
	Hispanic	248,000	574,000	131.5%

LEADING HEALTH INDICATORS

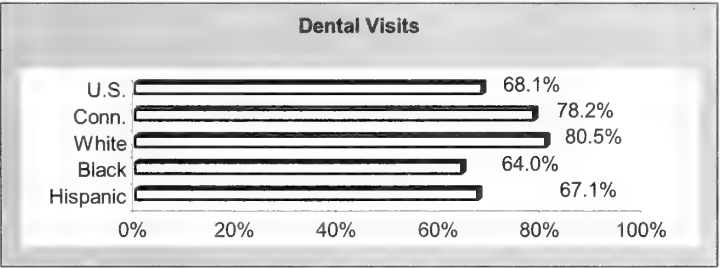
Infant Mortality (per 1,000 live births)²



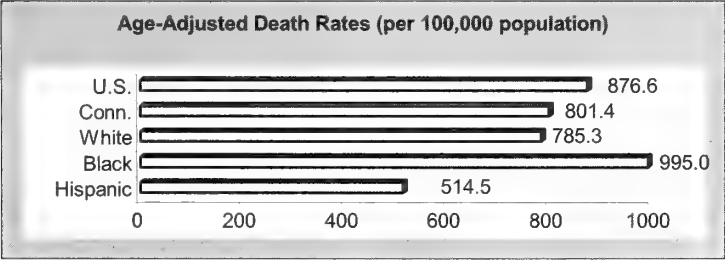
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

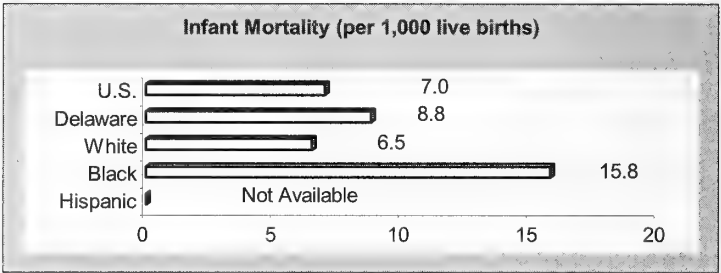
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

DELAWARE

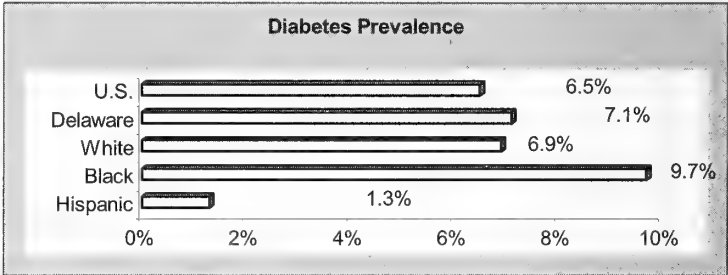
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		715,000	861,000	20.4%
DELAWARE	White	570,000	633,000	11.1%
	Black or African American	131,000	199,000	51.9%
	Asian or Pacific Islander	12,000	27,000	125.0%
	American Indian, Eskimo, or Aleut	2,000	2,000	0.0%
	Hispanic	19,000	48,000	152.6%

LEADING HEALTH INDICATORS

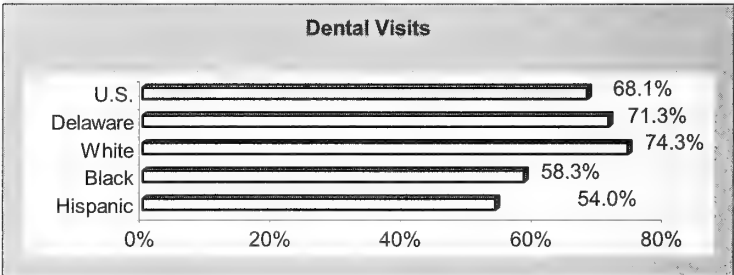
Infant Mortality (per 1,000 live births)²



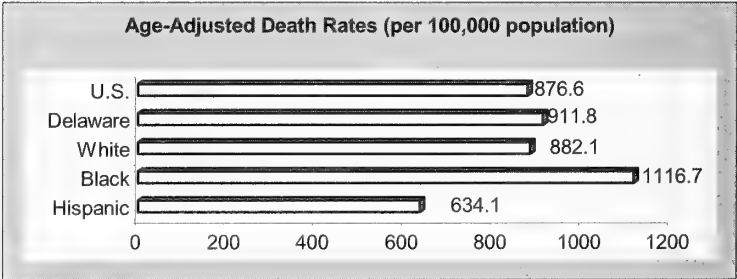
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

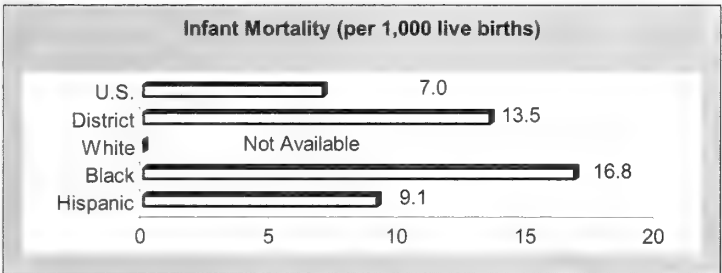
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

DISTRICT OF COLUMBIA

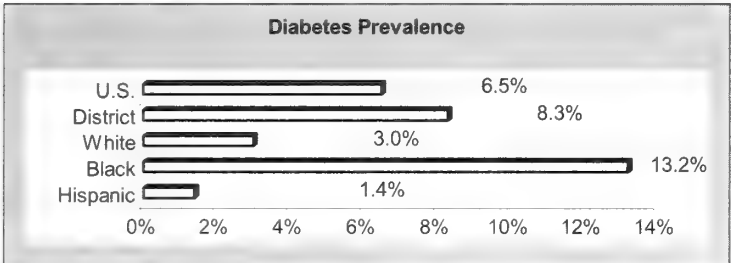
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		553,000	654,000	18.3%
DISTRICT OF COLUMBIA	White	183,000	239,000	30.6%
	Black or African American	352,000	386,000	9.7%
	Asian or Pacific Islander	17,000	29,000	70.6%
	American Indian, Eskimo, or Aleut	1,000	0	0.0%
	Hispanic	37,000	80,000	116.2%

LEADING HEALTH INDICATORS

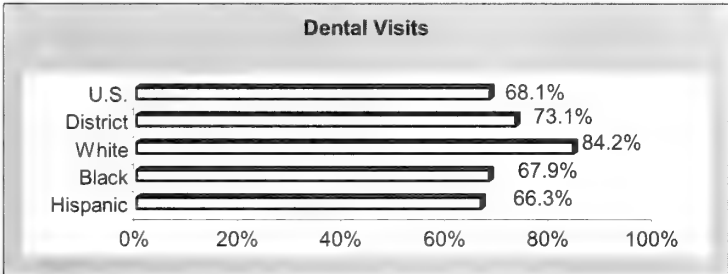
Infant Mortality (per 1,000 live births)²



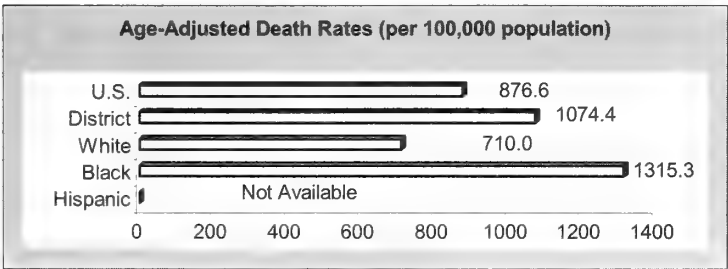
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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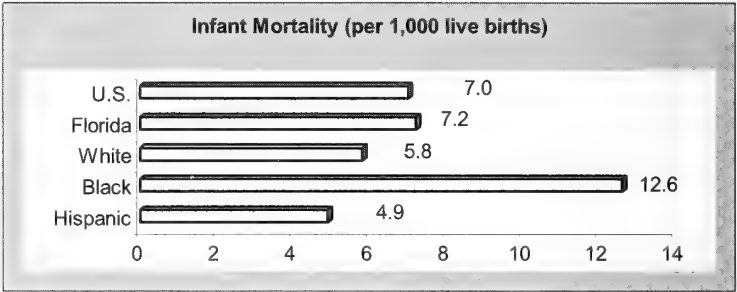
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

FLORIDA

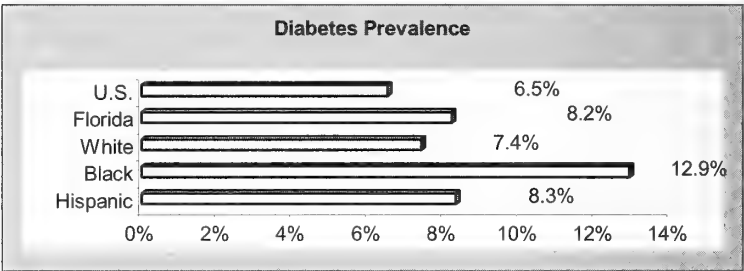
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		14,164,000	20,707,000	46.2%
FLORIDA	White	11,823,000	16,541,000	39.9%
	Black or African American	2,078,000	3,556,000	71.1%
	Asian or Pacific Islander	218,000	526,000	141.3%
	American Indian, Eskimo, or Aleut	45,000	84,000	86.7%
	Hispanic	1,955,000	4,944,000	152.9%

LEADING HEALTH INDICATORS

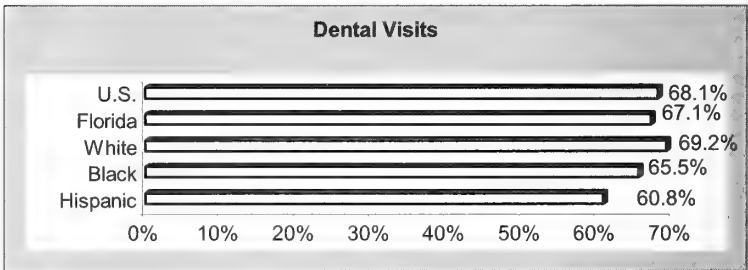
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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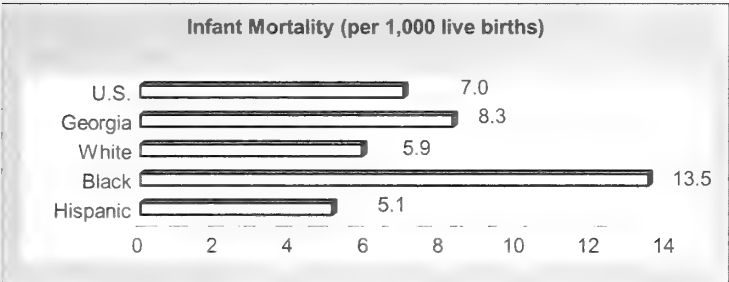
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

GEORGIA

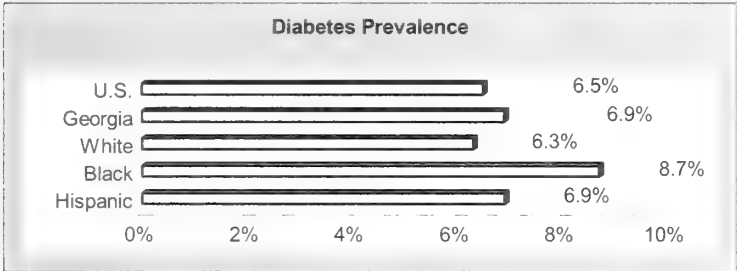
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		7,202,000	9,872,000	37.1%
GEORGIA	White	5,055,000	6,282,000	24.3%
	Black or African American	2,019,000	3,322,000	64.5%
	Asian or Pacific Islander	112,000	247,000	120.5%
	American Indian, Eskimo, or Aleut	16,000	21,000	31.3%
	Hispanic	150,000	346,000	130.7%

LEADING HEALTH INDICATORS

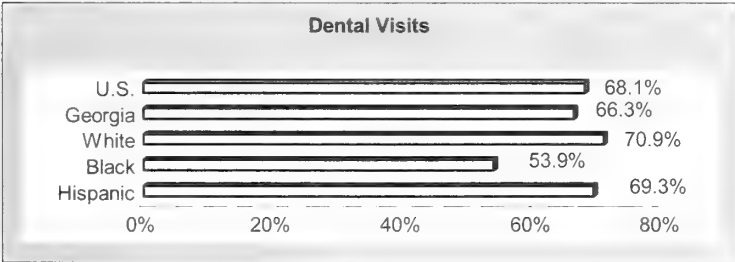
Infant Mortality (per 1,000 live births)²



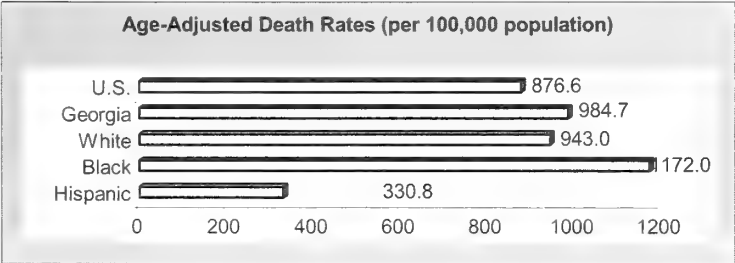
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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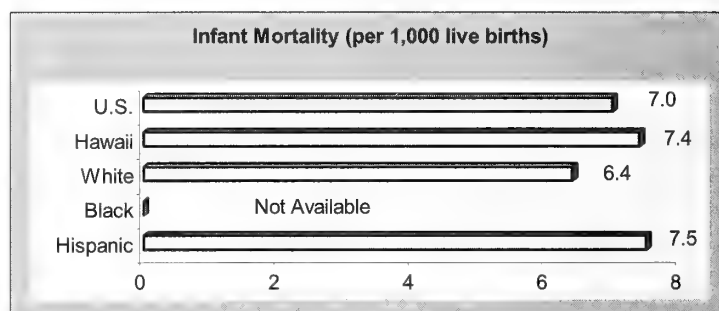
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

HAWAII

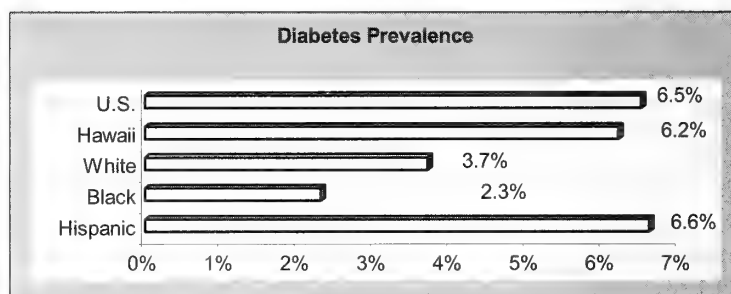
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,188,000	1,814,000	52.7%
HAWAII	White	398,000	566,000	42.2%
	Black or African American	29,000	42,000	44.8%
	Asian or Pacific Islander	755,000	1,198,000	58.7%
	American Indian, Eskimo, or Aleut	6,000	8,000	33.3%
	Hispanic	100,000	186,000	86.0%

LEADING HEALTH INDICATORS

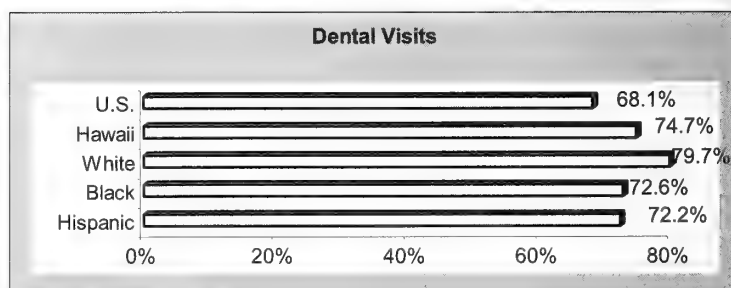
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵

Information on age-adjusted death rates is not available for Hawaii

¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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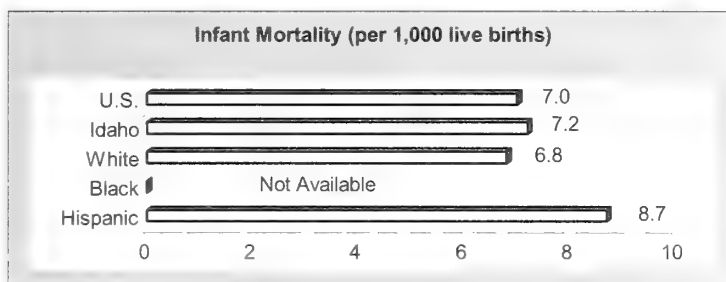
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

IDAHO

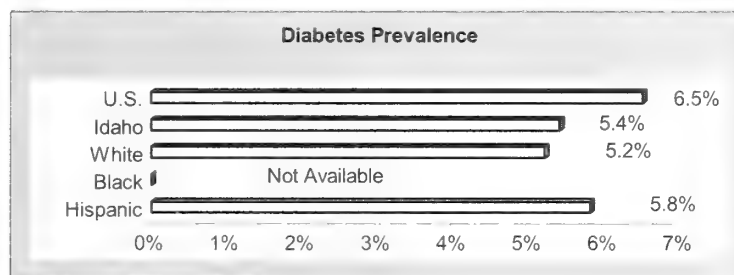
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		1,164,000	1,739,000	49.4%
IDAHO	White	1,129,000	1,661,000	47.1%
	Black or African American	6,000	17,000	183.3%
	Asian or Pacific Islander	13,000	29,000	123.1%
	American Indian, Eskimo, or Aleut	16,000	32,000	100.0%
	Hispanic	72,000	205,000	184.7%

LEADING HEALTH INDICATORS

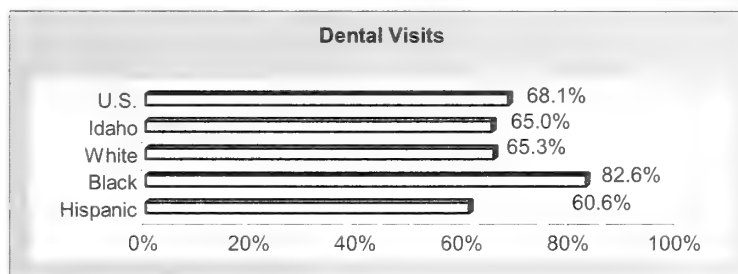
Infant Mortality (per 1,000 live births)²



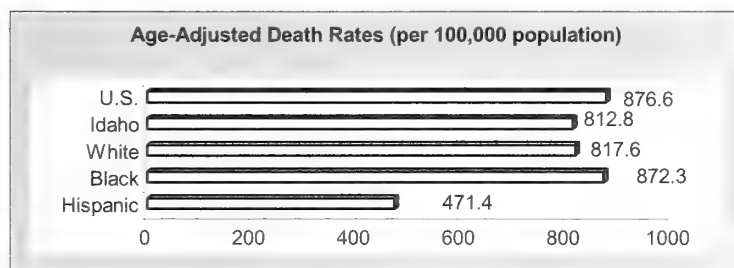
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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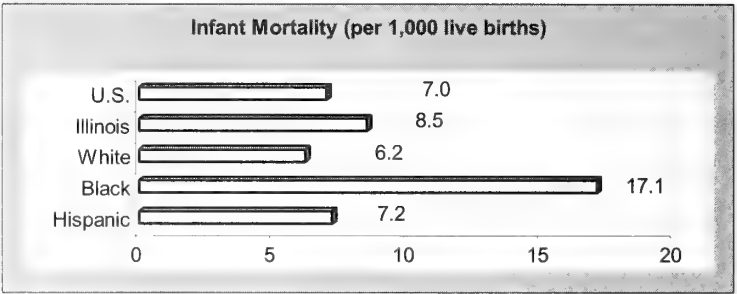
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

ILLINOIS

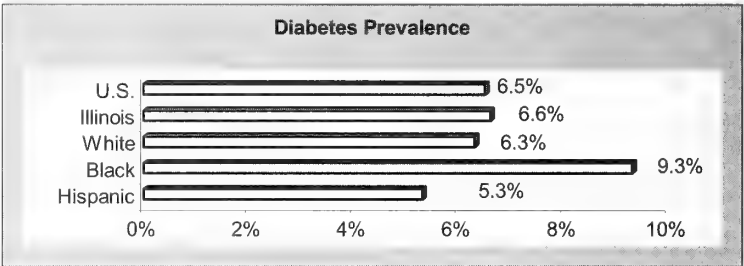
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		11,831,000	13,440,000	13.6%
ILLINOIS	White	9,635,000	10,504,000	9.0%
	Black or African American	1,813,000	2,176,000	20.0%
	Asian or Pacific Islander	358,000	721,000	101.4%
	American Indian, Eskimo, or Aleut	25,000	39,000	56.0%
	Hispanic	1,090,000	2,275,000	108.7%

LEADING HEALTH INDICATORS

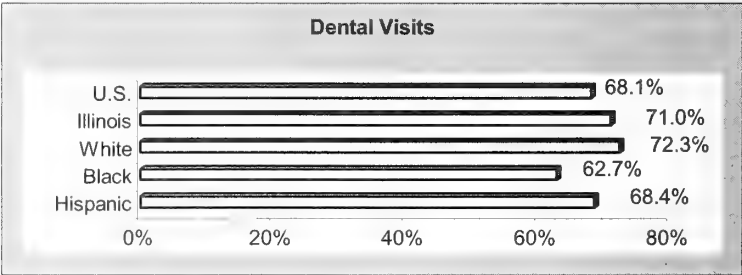
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

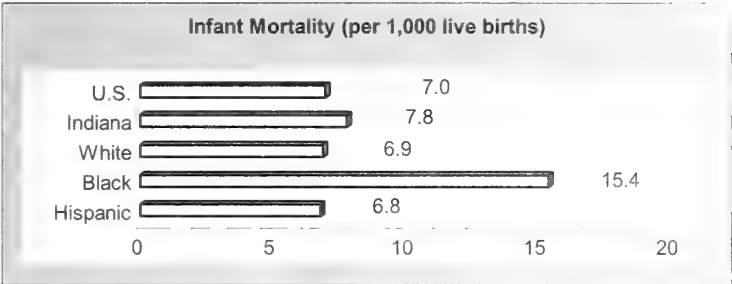
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

INDIANA

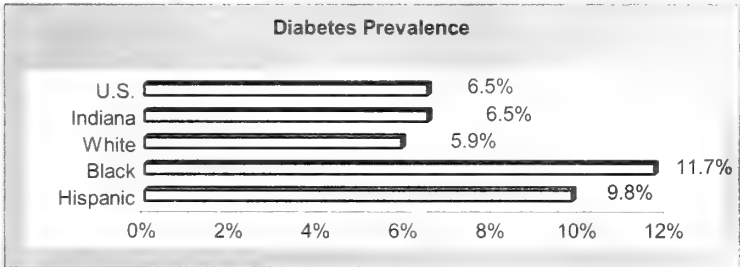
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		5,803,000	6,545,000	12.8%
INDIANA	White	5,270,000	5,811,000	10.3%
	Black or African American	471,000	615,000	30.6%
	Asian or Pacific Islander	48,000	100,000	108.3%
	American Indian, Eskimo, or Aleut	14,000	19,000	35.7%
	Hispanic	119,000	243,000	104.2%

LEADING HEALTH INDICATORS

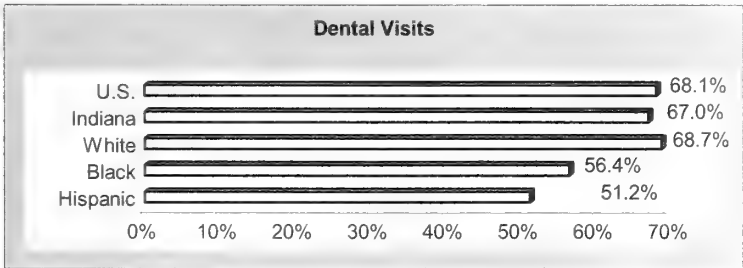
Infant Mortality (per 1,000 live births)²



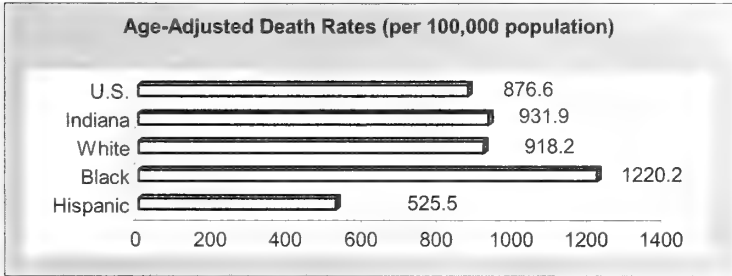
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

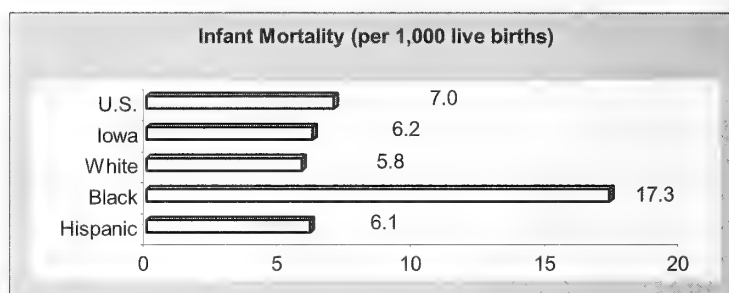
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

IOWA

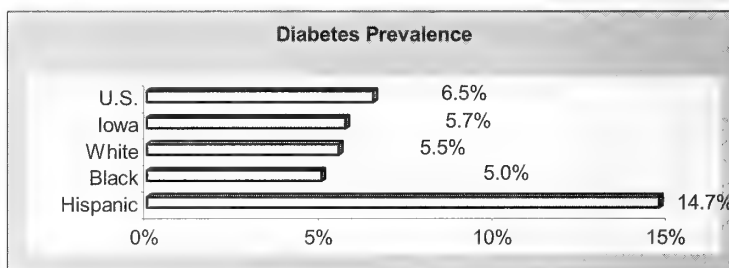
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		2,843,000	3,039,000	6.9%
IOWA	White	2,745,000	2,858,000	4.1%
	Black or African American	56,000	91,000	62.5%
	Asian or Pacific Islander	34,000	76,000	123.5%
	American Indian, Eskimo, or Aleut	8,000	14,000	75.0%
	Hispanic	46,000	96,000	108.7%

LEADING HEALTH INDICATORS

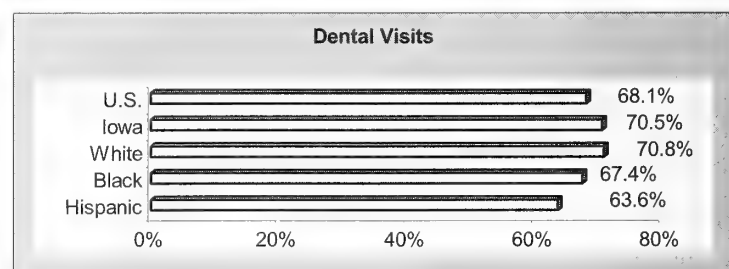
Infant Mortality (per 1,000 live births)²



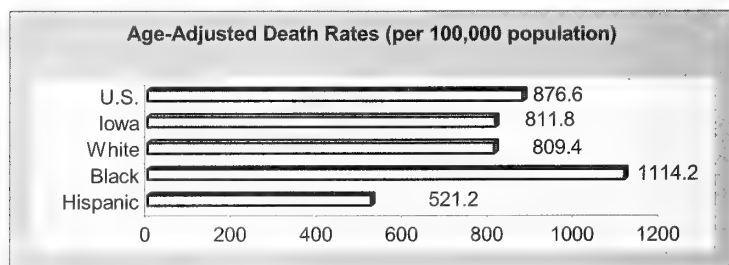
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

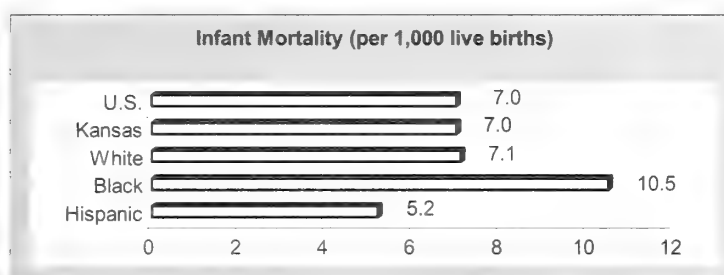
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

KANSAS

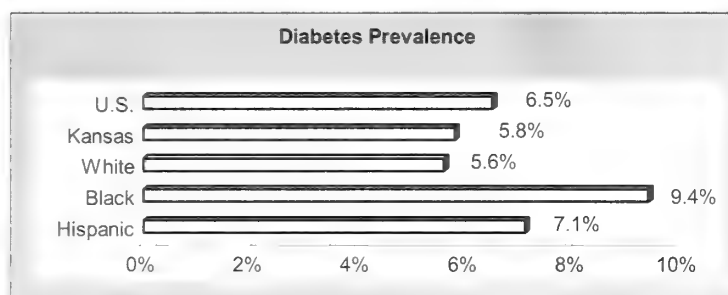
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		2,566,000	3,110,000	21.2%
KANSAS	White	2,344,000	2,741,000	16.9%
	Black or African American	158,000	249,000	57.6%
	Asian or Pacific Islander	41,000	84,000	104.9%
	American Indian, Eskimo, or Aleut	23,000	36,000	56.5%
	Hispanic	114,000	281,000	146.5%

LEADING HEALTH INDICATORS

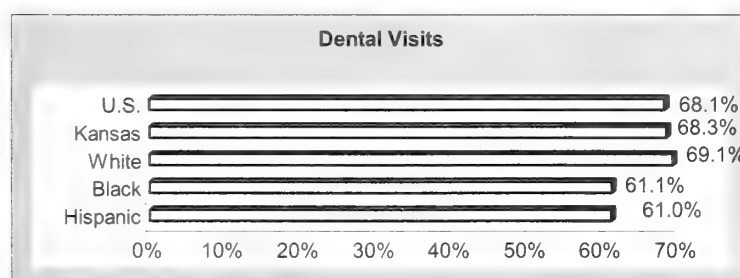
Infant Mortality (per 1,000 live births)²



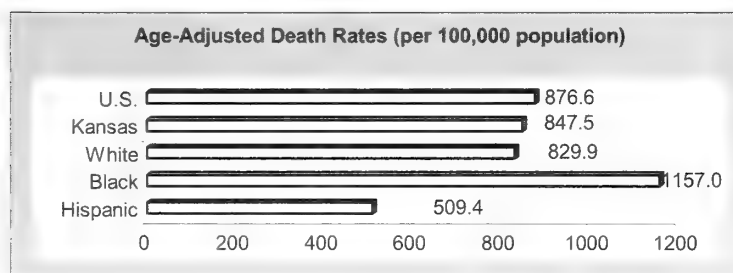
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

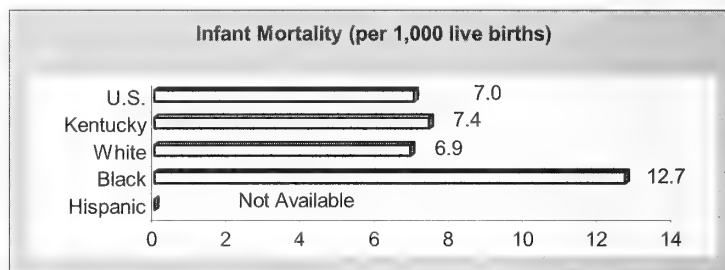
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

KENTUCKY

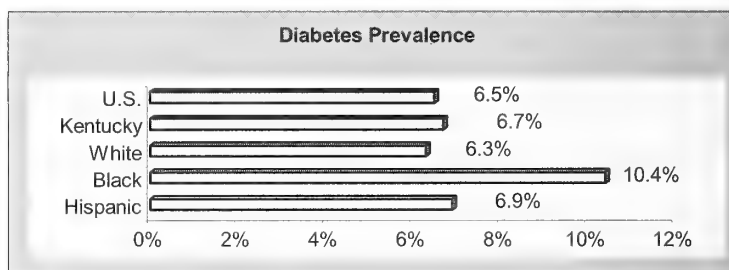
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		3,859,000	4,313,000	11.8%
KENTUCKY	White	3,555,000	3,916,000	10.2%
	Black or African American	274,000	343,000	25.2%
	Asian or Pacific Islander	24,000	46,000	91.7%
	American Indian, Eskimo, or Aleut	6,000	8,000	33.3%
	Hispanic	27,000	55,000	103.7%

LEADING HEALTH INDICATORS

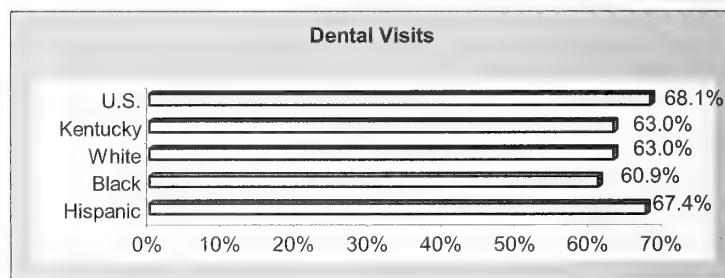
Infant Mortality (per 1,000 live births)²



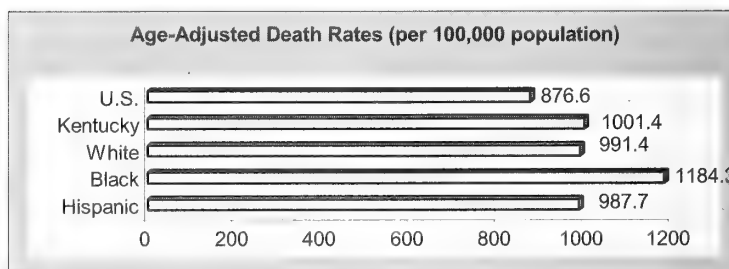
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

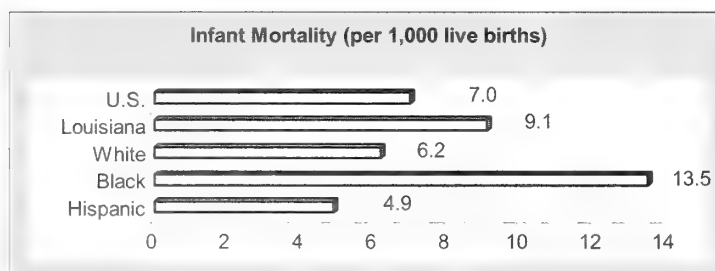
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

LOUISIANA

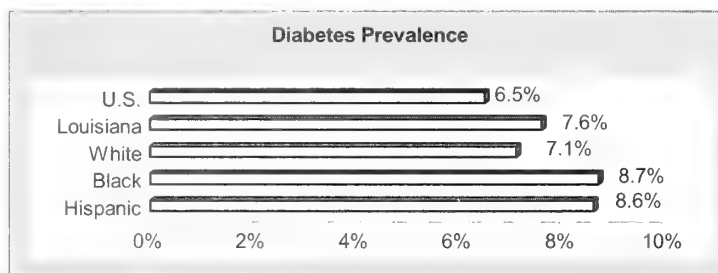
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		4,344,000	5,134,000	18.2%
LOUISIANA	White	2,889,000	3,145,000	8.9%
	Black or African American	1,382,000	1,849,000	33.8%
	Asian or Pacific Islander	53,000	115,000	117.0%
	American Indian, Eskimo, or Aleut	20,000	25,000	25.0%
	Hispanic	105,000	227,000	116.2%

LEADING HEALTH INDICATORS

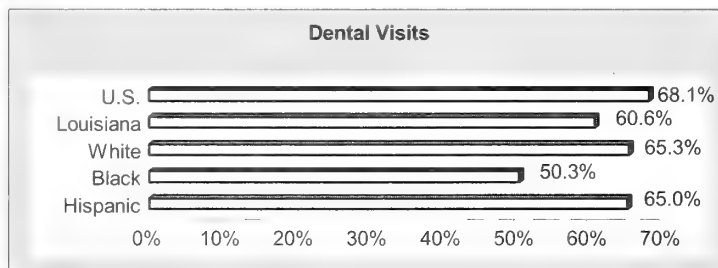
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

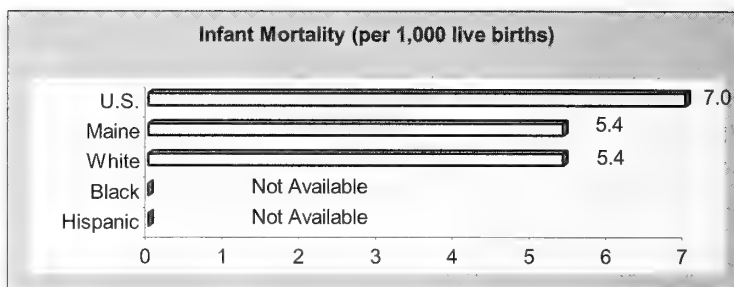
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MAINE

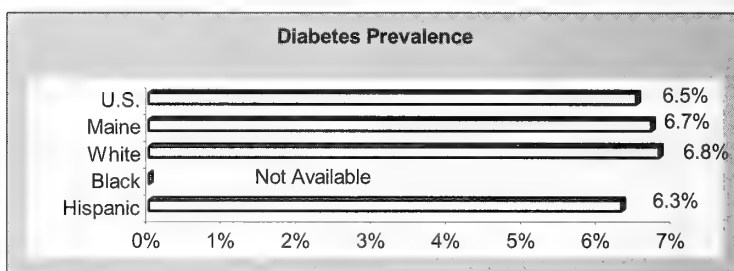
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,241,000	1,422,000	14.6%
MAINE	White	1,222,000	1,388,000	13.6%
	Black or African American	5,000	8,000	60.0%
	Asian or Pacific Islander	8,000	19,000	137.5%
	American Indian, Eskimo, or Aleut	6,000	7,000	16.7%
	Hispanic	6,000	20,000	233.3%

LEADING HEALTH INDICATORS

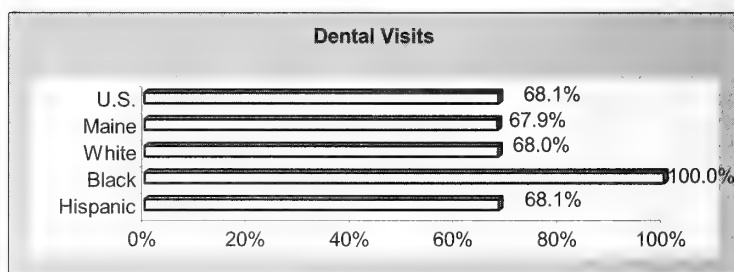
Infant Mortality (per 1,000 live births)²



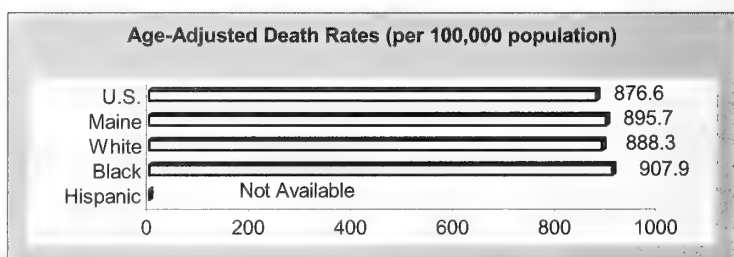
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

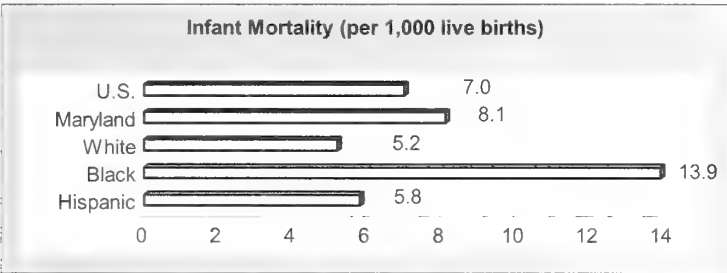
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MARYLAND

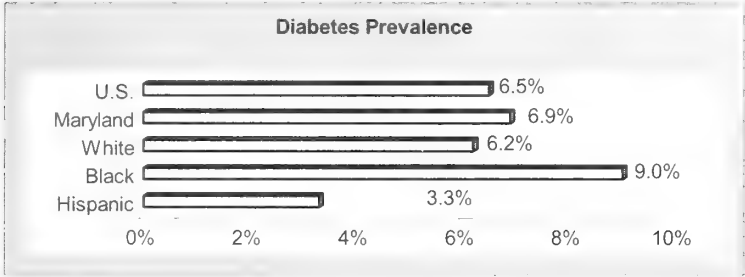
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		5,042,000	6,275,000	24.5%
MARYLAND	White	3,496,000	3,775,000	8.0%
	Black or African American	1,347,000	2,073,000	53.9%
	Asian or Pacific Islander	185,000	406,000	119.5%
	American Indian, Eskimo, or Aleut	14,000	21,000	50.0%
	Hispanic	172,000	438,000	154.7%

LEADING HEALTH INDICATORS

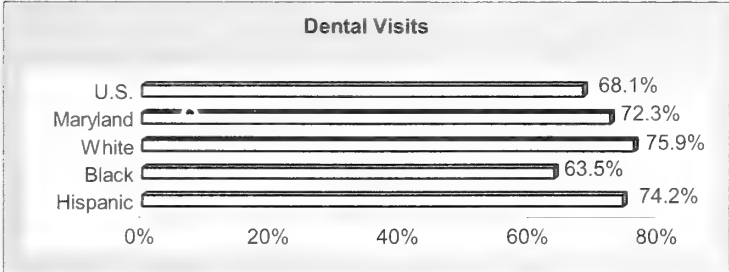
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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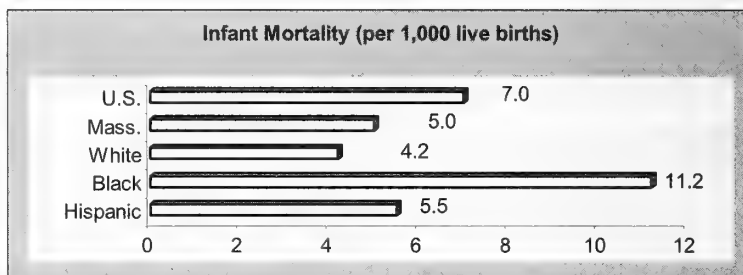
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MASSACHUSETTS

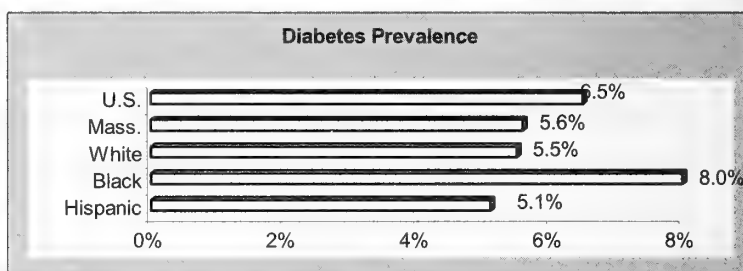
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		6,075,000	6,902,000	13.6%
MASSACHUSETTS	White	5,498,000	5,694,000	3.6%
	Black or African American	373,000	655,000	75.6%
	Asian or Pacific Islander	190,000	534,000	181.1%
	American Indian, Eskimo, or Aleut	14,000	19,000	35.7%
	Hispanic	355,000	934,000	163.1%

LEADING HEALTH INDICATORS

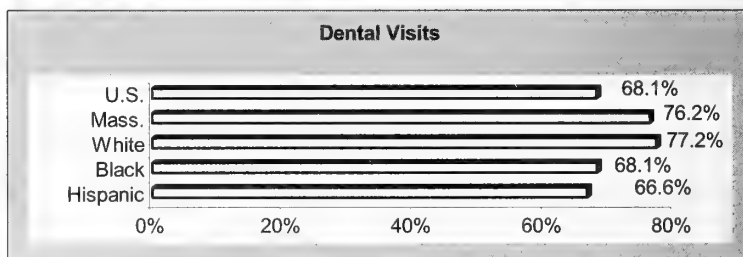
Infant Mortality (per 1,000 live births)²



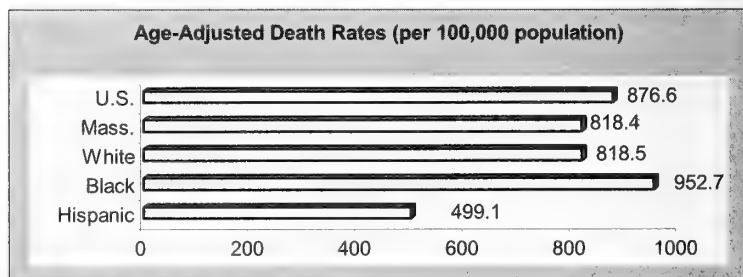
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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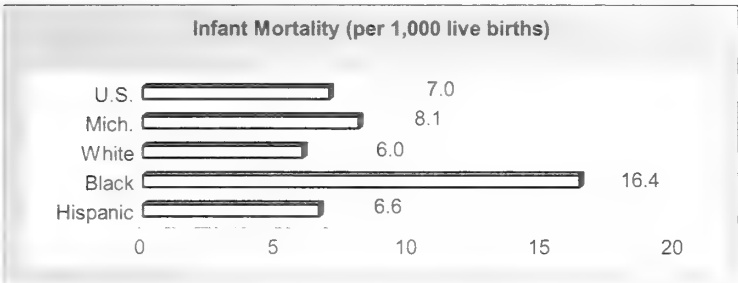
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MICHIGAN

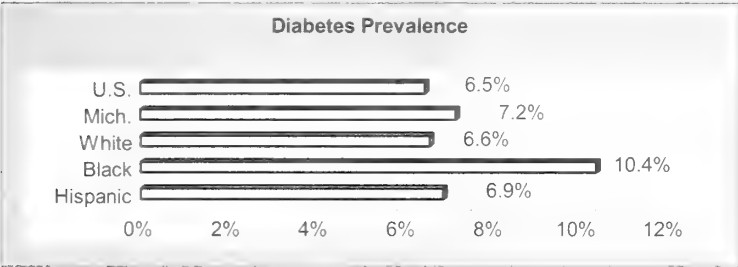
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		9,551,000	10,078,000	5.5%
MICHIGAN	White	7,981,000	8,011,000	0.4%
	Black or African American	1,379,000	1,705,000	23.6%
	Asian or Pacific Islander	132,000	290,000	119.7%
	American Indian, Eskimo, or Aleut	59,000	72,000	22.0%
	Hispanic	233,000	431,000	85.0%

LEADING HEALTH INDICATORS

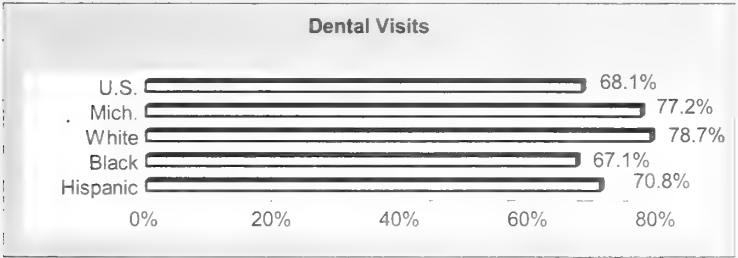
Infant Mortality (per 1,000 live births)²



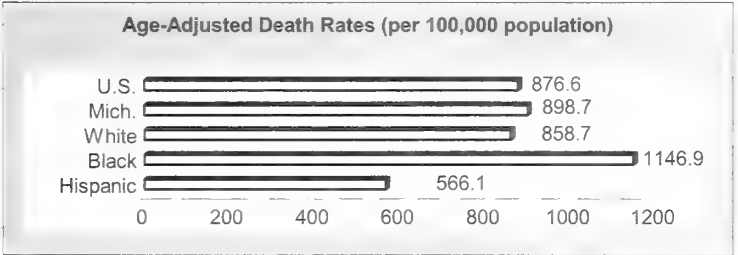
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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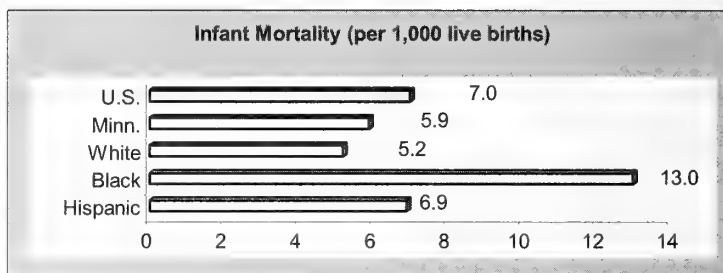
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MINNESOTA

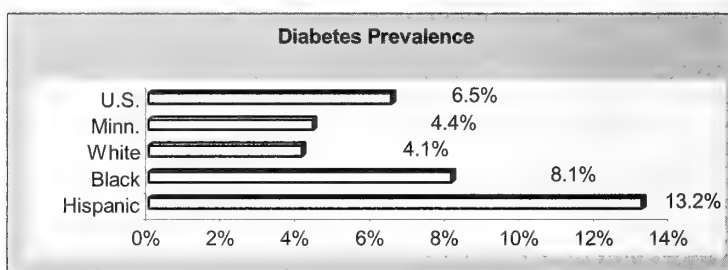
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		4,607,000	5,512,000	19.6%
MINNESOTA	White	4,318,000	4,855,000	12.4%
	Black or African American	127,000	279,000	119.7%
	Asian or Pacific Islander	106,000	274,000	158.5%
	American Indian, Eskimo, or Aleut	56,000	104,000	85.7%
	Hispanic	73,000	193,000	164.4%

LEADING HEALTH INDICATORS

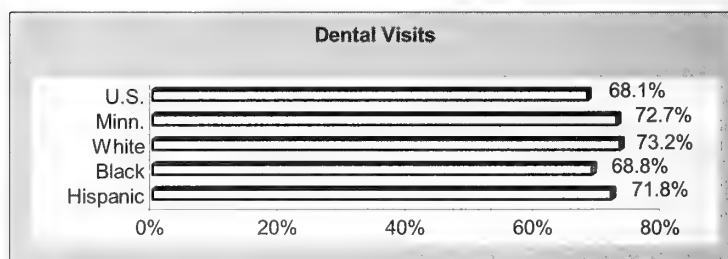
Infant Mortality (per 1,000 live births)²



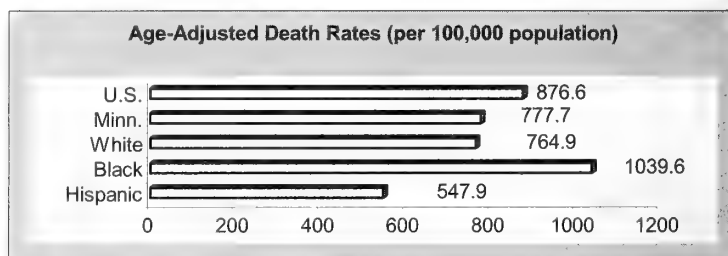
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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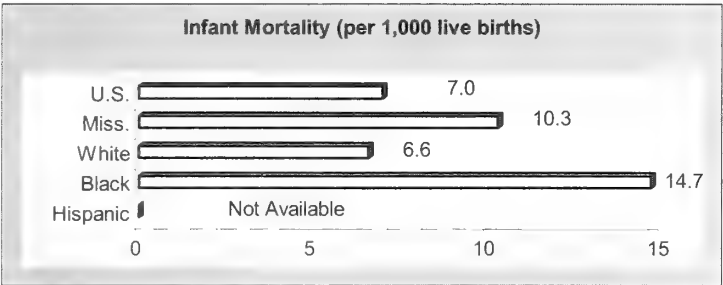
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MISSISSIPPI

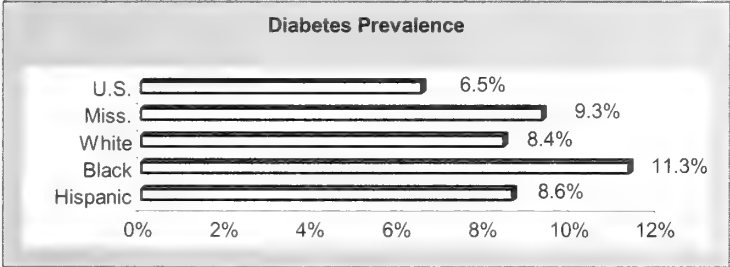
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		2,695,000	3,141,000	16.5%
MISSISSIPPI	White	1,703,000	1,939,000	13.9%
	Black or African American	968,000	1,162,000	20.0%
	Asian or Pacific Islander	16,000	32,000	100.0%
	American Indian, Eskimo, or Aleut	8,000	8,000	0.0%
	Hispanic	19,000	39,000	105.3%

LEADING HEALTH INDICATORS

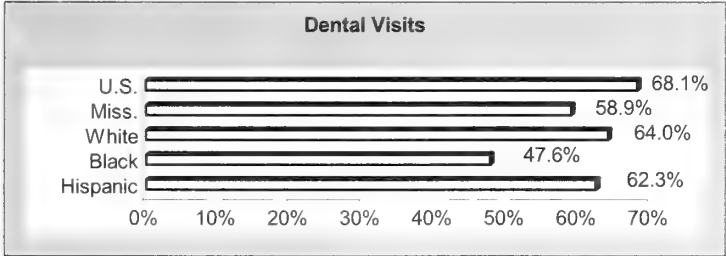
Infant Mortality (per 1,000 live births)²



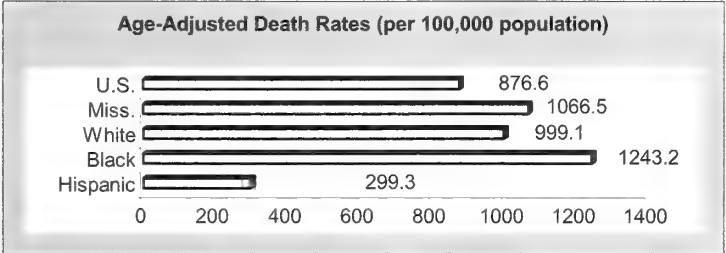
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

²Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

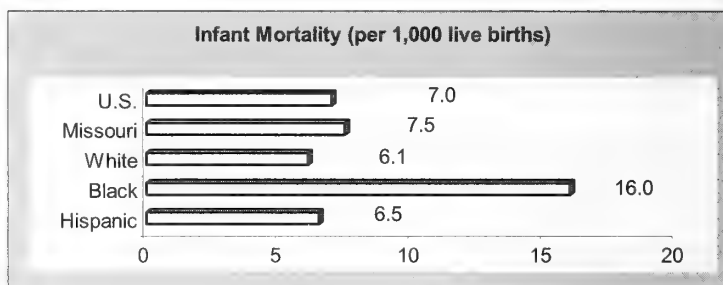
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MISSOURI

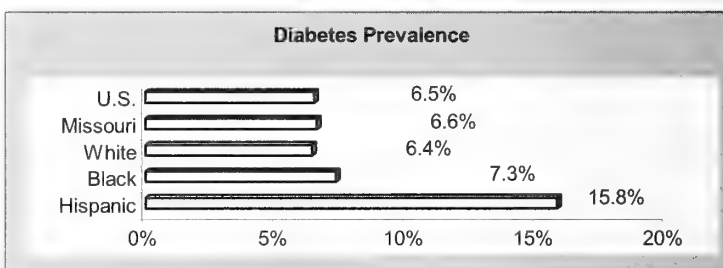
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		5,324,000	6,251,000	17.4%
MISSOURI	White	4,659,000	5,317,000	14.1%
	Black or African American	589,000	800,000	35.8%
	Asian or Pacific Islander	54,000	102,000	88.9%
	American Indian, Eskimo, or Aleut	22,000	32,000	45.5%
	Hispanic	74,000	172,000	132.4%

LEADING HEALTH INDICATORS

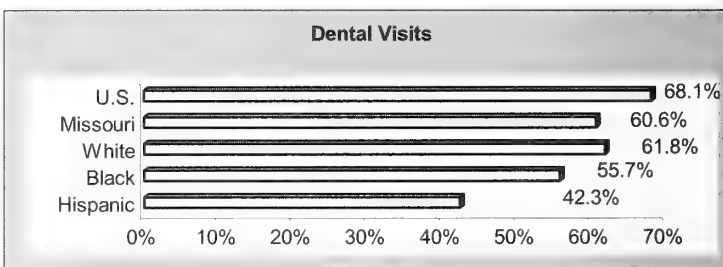
Infant Mortality (per 1,000 live births)²



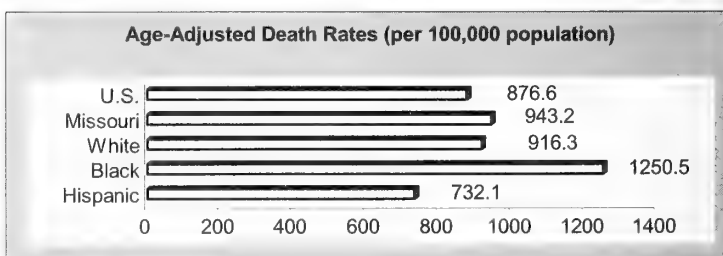
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

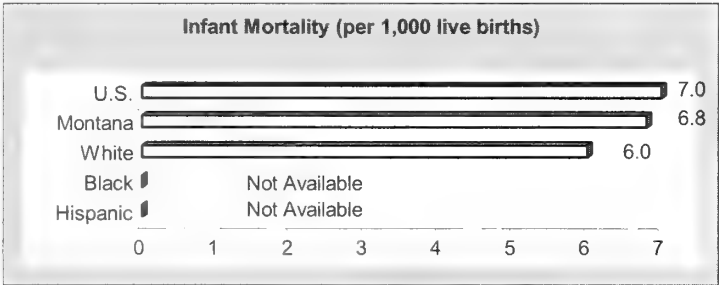
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

MONTANA

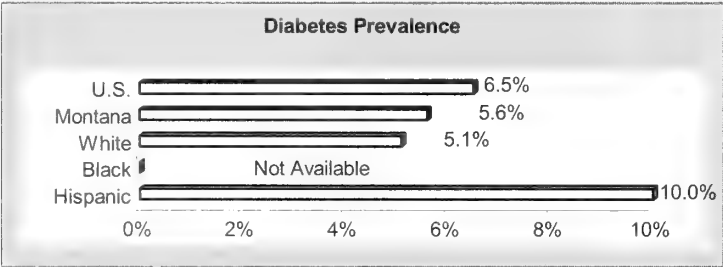
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		871,000	1,119,000	28.5%
MONTANA	White	810,000	1,007,000	24.3%
	Black or African American	3,000	6,000	100.0%
	Asian or Pacific Islander	5,000	14,000	180.0%
	American Indian, Eskimo, or Aleut	53,000	92,000	73.6%
	Hispanic	16,000	39,000	143.8%

LEADING HEALTH INDICATORS

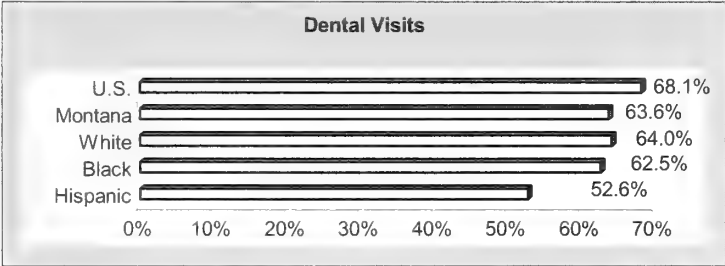
Infant Mortality (per 1,000 live births)²



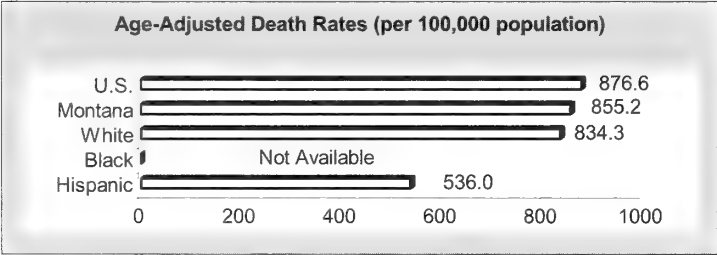
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

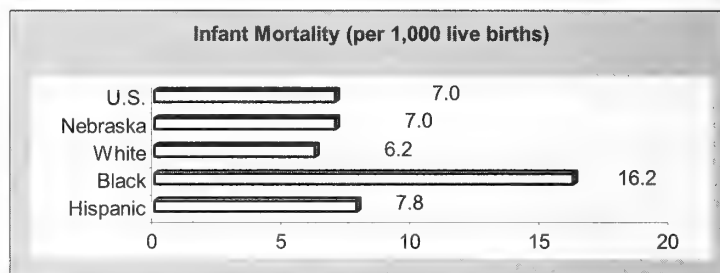
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NEBRASKA

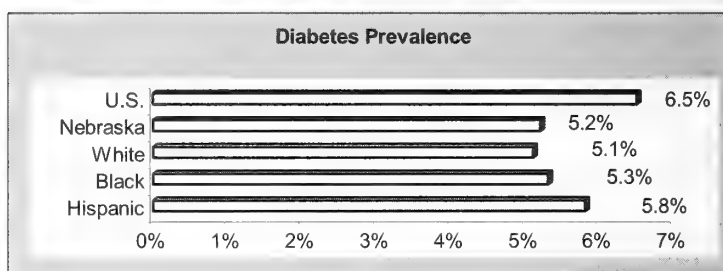
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,637,000	1,930,000	17.9%
NEBRASKA	White	1,542,000	1,754,000	13.7%
	Black or African American	64,000	109,000	70.3%
	Asian or Pacific Islander	17,000	42,000	147.1%
	American Indian, Eskimo, or Aleut	14,000	25,000	78.6%
	Hispanic	50,000	111,000	122.0%

LEADING HEALTH INDICATORS

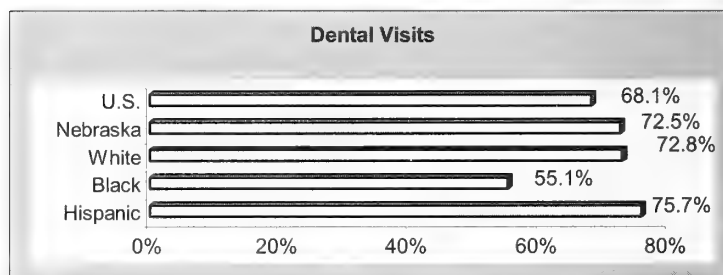
Infant Mortality (per 1,000 live births)²



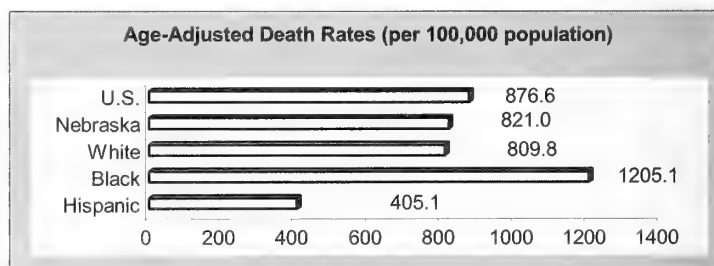
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

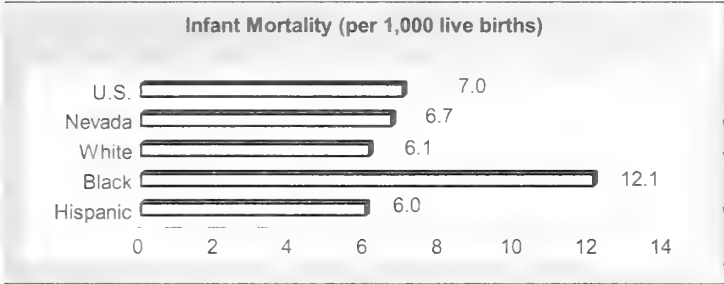
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NEVADA

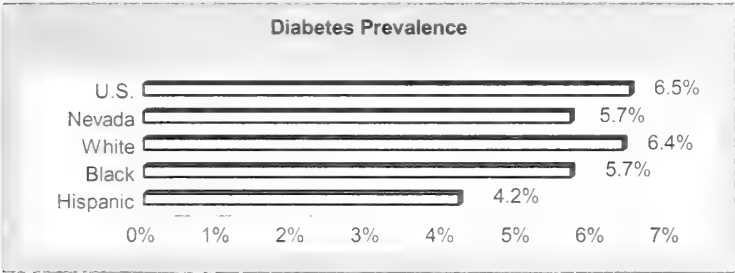
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,530,000	2,311,000	51.0%
NEVADA	White	1,334,000	1,933,000	44.9%
	Black or African American	109,000	202,000	85.3%
	Asian or Pacific Islander	61,000	142,000	132.8%
	American Indian, Eskimo, or Aleut	26,000	34,000	30.8%
	Hispanic	192,000	583,000	203.6%

LEADING HEALTH INDICATORS

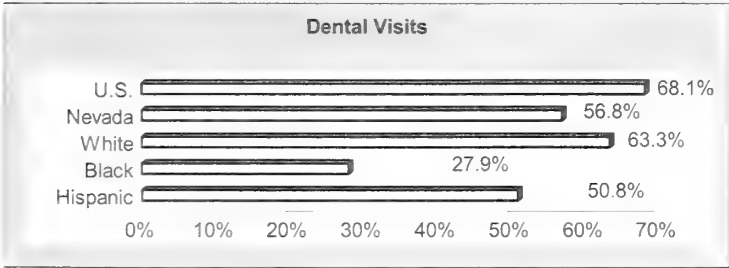
Infant Mortality (per 1,000 live births)²



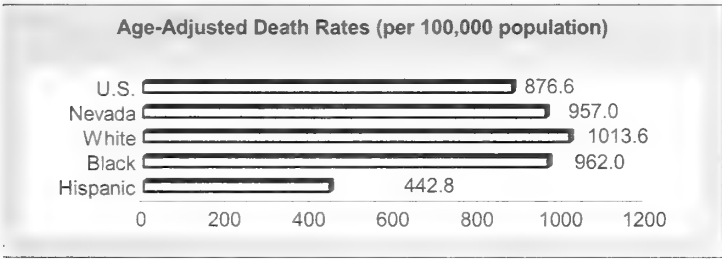
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

²Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

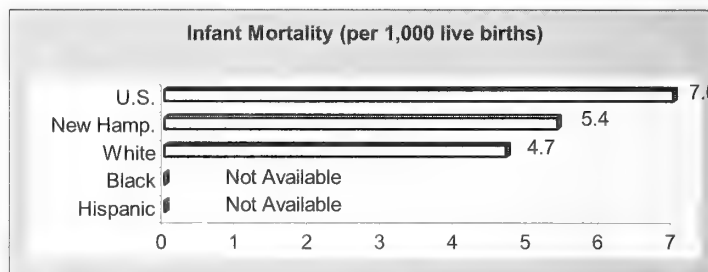
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NEW HAMPSHIRE

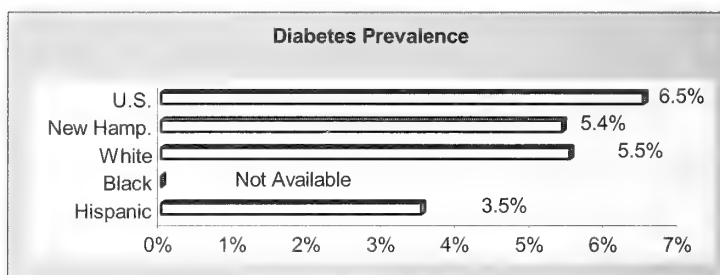
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		1,148,000	1,437,000	25.2%
NEW HAMPSHIRE	White	1,127,000	1,389,000	23.2%
	Black or African American	8,000	14,000	75.0%
	Asian or Pacific Islander	11,000	30,000	172.7%
	American Indian, Eskimo, or Aleut	2,000	4,000	100.0%
	Hispanic	13,000	34,000	161.5%

LEADING HEALTH INDICATORS

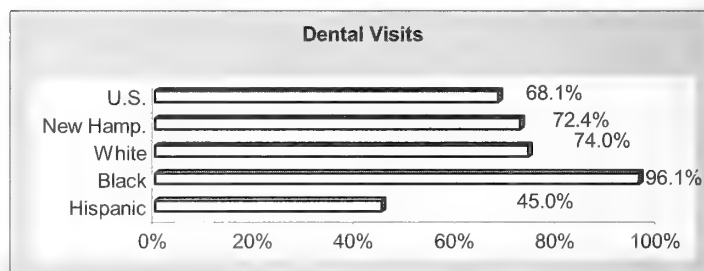
Infant Mortality (per 1,000 live births)²



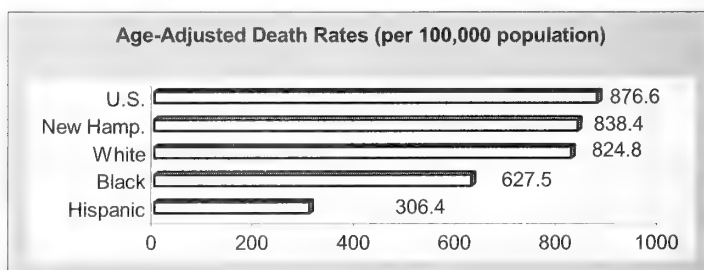
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

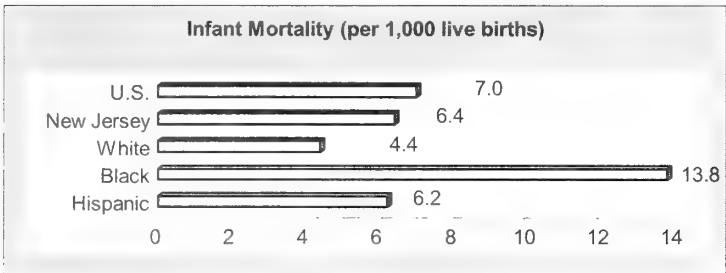
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NEW JERSEY

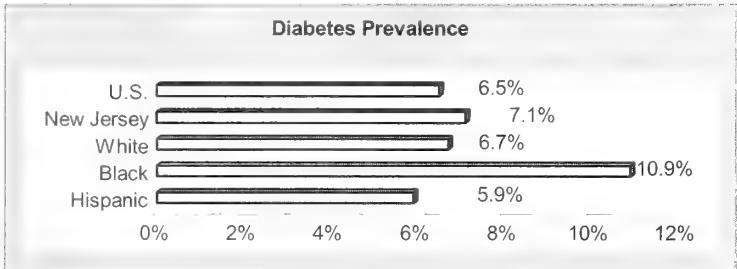
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		7,946,000	9,560,000	20.3%
NEW JERSEY	White	6,402,000	6,815,000	6.5%
	Black or African American	1,151,000	1,721,000	49.5%
	Asian or Pacific Islander	373,000	995,000	166.8%
	American Indian, Eskimo, or Aleut	20,000	29,000	45.0%
	Hispanic	896,000	1,861,000	107.7%

LEADING HEALTH INDICATORS

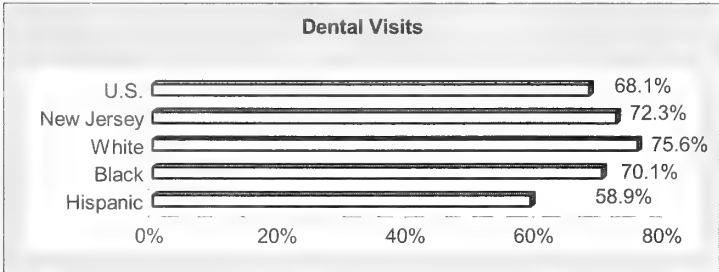
Infant Mortality (per 1,000 live births)²



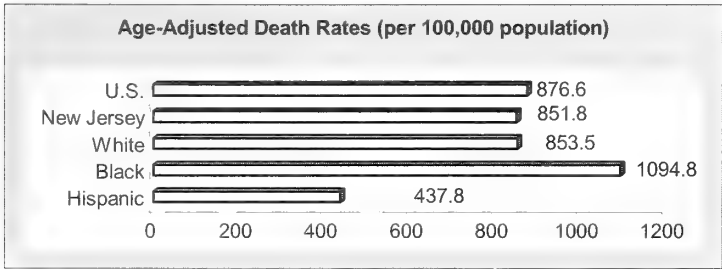
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

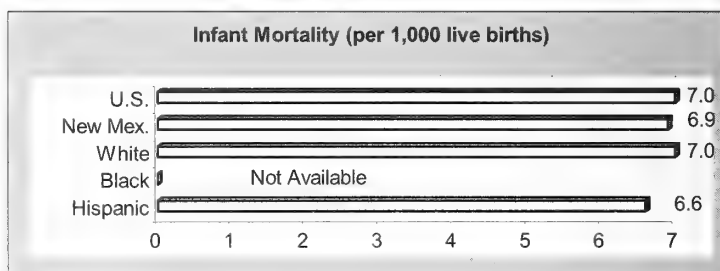
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1996-2000.

NEW MEXICO

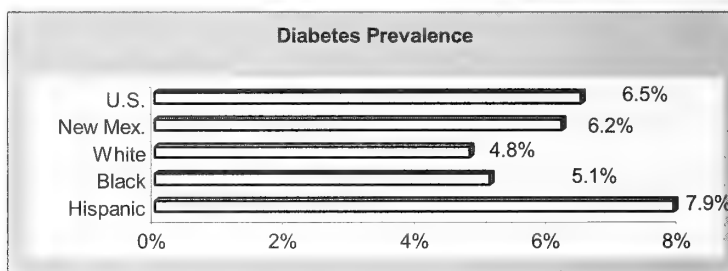
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,684,000	2,613,000	55.2%
NEW MEXICO	White	1,472,000	2,192,000	48.9%
	Black or African American	41,000	89,000	117.1%
	Asian or Pacific Islander	21,000	57,000	171.4%
	American Indian, Eskimo, or Aleut	150,000	275,000	83.3%
	Hispanic	657,000	1,241,000	88.9%

LEADING HEALTH INDICATORS

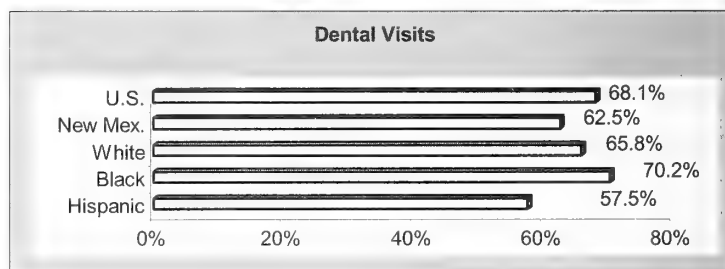
Infant Mortality (per 1,000 live births)²



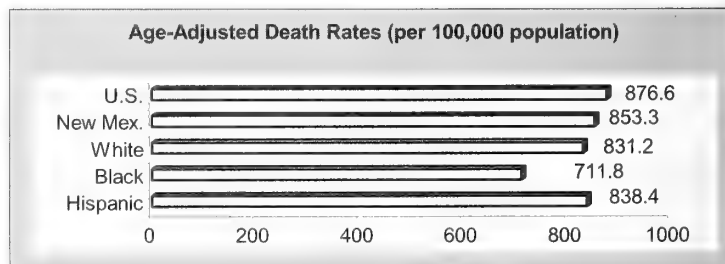
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

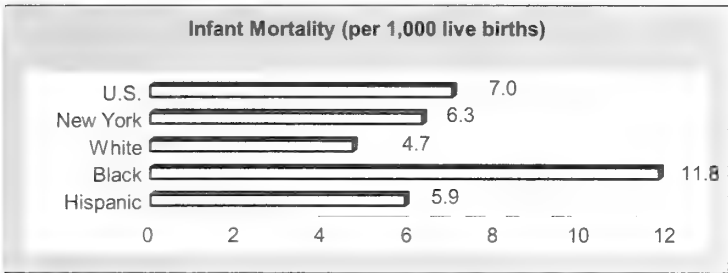
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NEW YORK

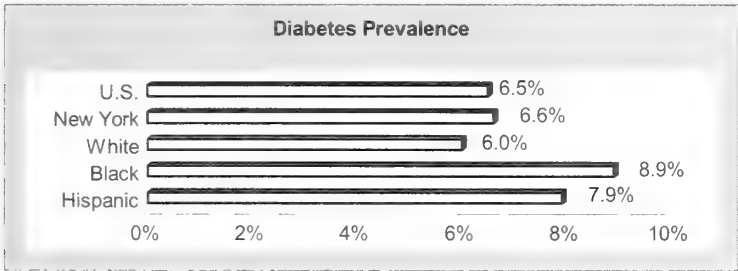
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		18,134,000	19,830,000	9.4%
NEW YORK	White	14,006,000	13,813,000	-1.4%
	Black or African American	3,192,000	4,048,000	26.8%
	Asian or Pacific Islander	867,000	1,877,000	116.5%
	American Indian, Eskimo, or Aleut	69,000	92,000	33.3%
	Hispanic	2,541,000	4,309,000	69.6%

LEADING HEALTH INDICATORS

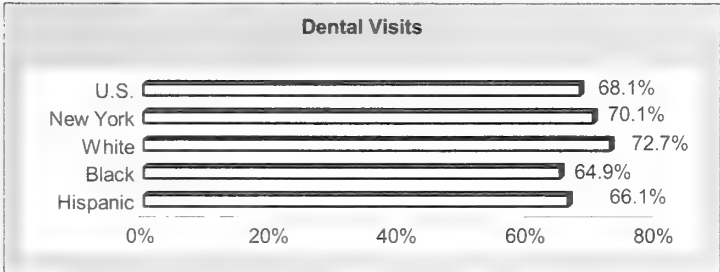
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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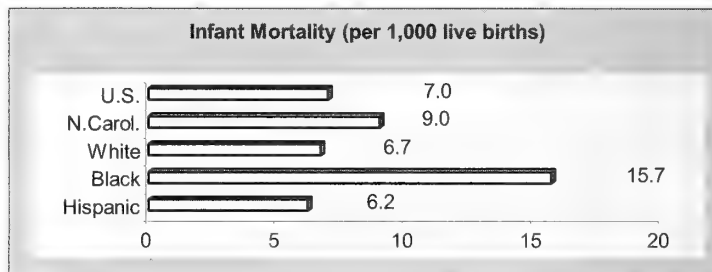
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NORTH CAROLINA

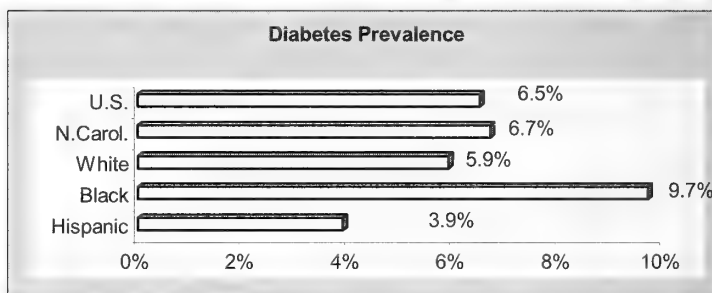
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		7,195,000	9,351,000	30.0%
NORTH CAROLINA	White	5,434,000	6,824,000	25.6%
	Black or African American	1,598,000	2,244,000	40.4%
	Asian or Pacific Islander	74,000	173,000	133.8%
	American Indian, Eskimo, or Aleut	89,000	110,000	23.6%
	Hispanic	100,000	210,000	110.0%

LEADING HEALTH INDICATORS

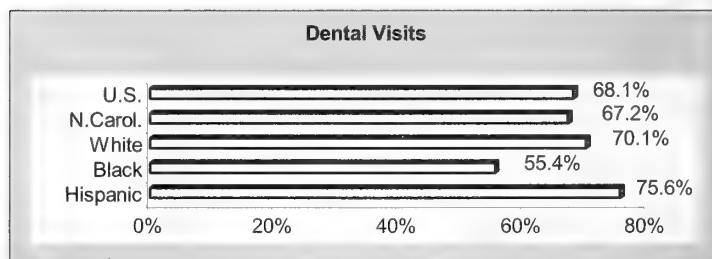
Infant Mortality (per 1,000 live births)²



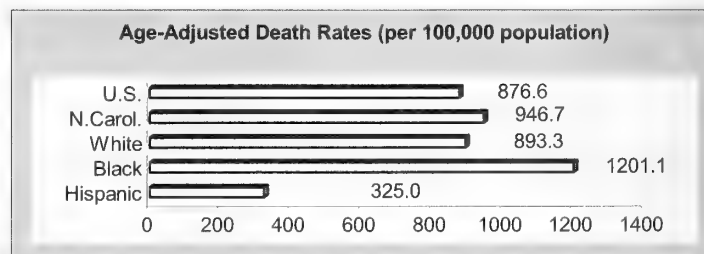
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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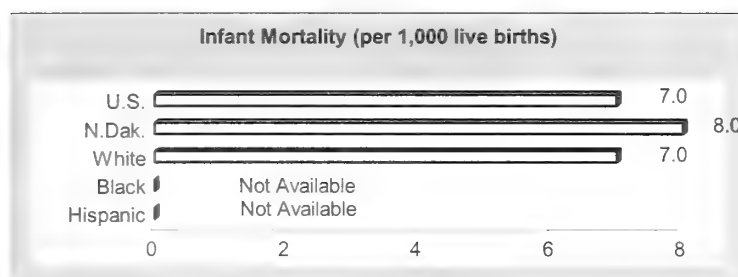
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

NORTH DAKOTA

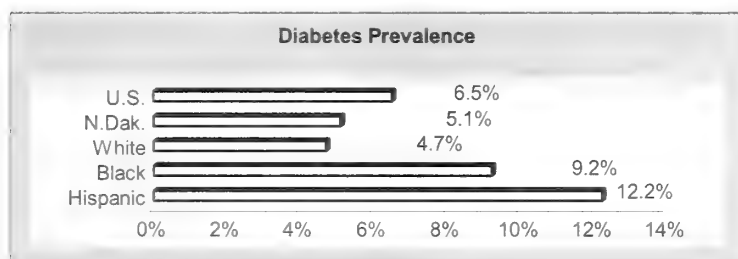
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		638,000	728,000	14.1%
NORTH DAKOTA	White	603,000	654,000	8.5%
	Black or African American	3,000	5,000	66.7%
	Asian or Pacific Islander	4,000	10,000	150.0%
	American Indian, Eskimo, or Aleut	28,000	59,000	110.7%
	Hispanic	4,000	14,000	250.0%

LEADING HEALTH INDICATORS

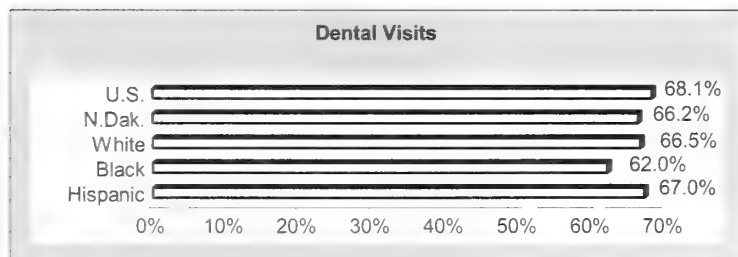
Infant Mortality (per 1,000 live births)²



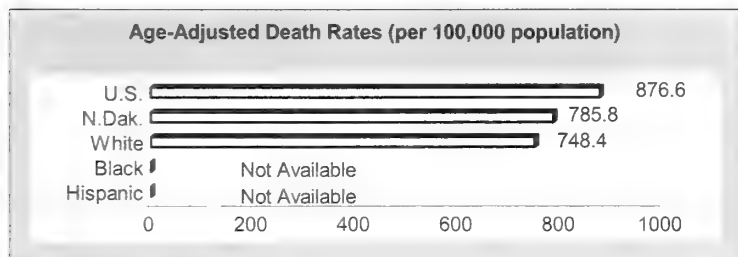
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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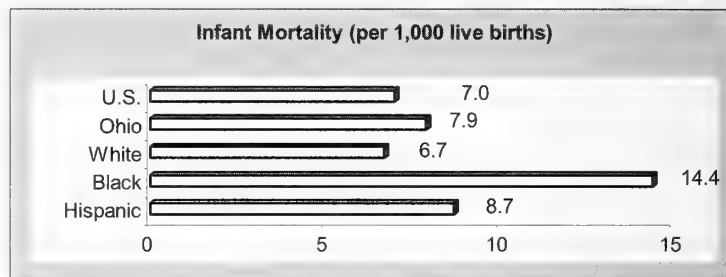
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

OHIO

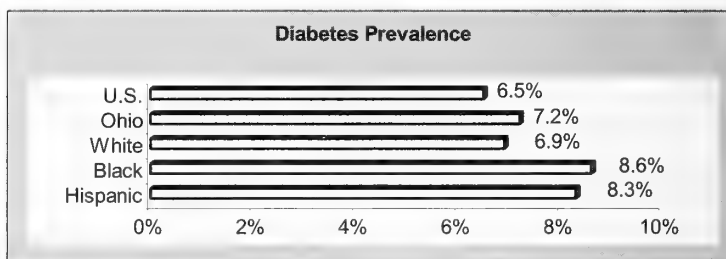
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		11,153,000	11,745,000	5.3%
OHIO	White	9,766,000	9,805,000	0.4%
	Black or African American	1,250,000	1,660,000	32.8%
	Asian or Pacific Islander	115,000	250,000	117.4%
	American Indian, Eskimo, or Aleut	22,000	30,000	36.4%
	Hispanic	162,000	319,000	96.9%

LEADING HEALTH INDICATORS

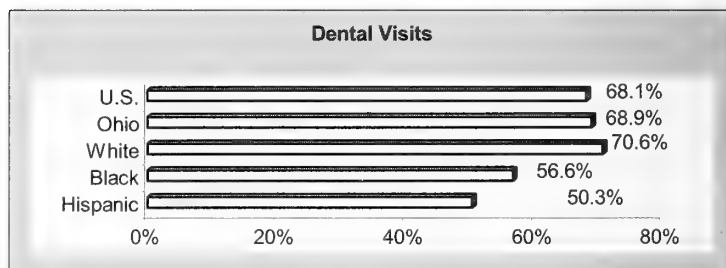
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

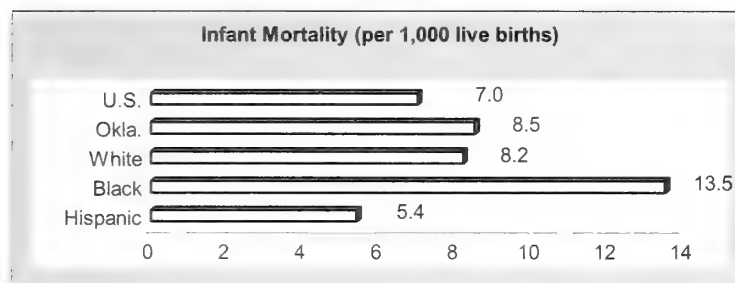
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

OKLAHOMA

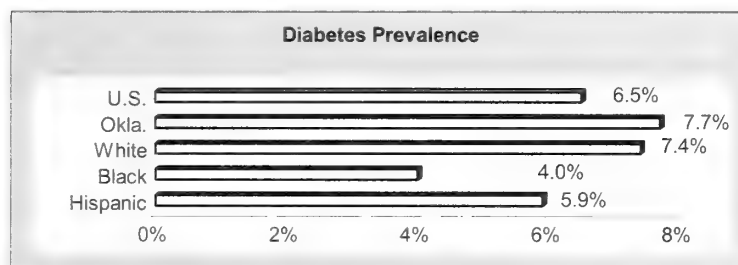
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		3,276,000	4,056,000	23.8%
OKLAHOMA	White	2,712,000	3,166,000	16.7%
	Black or African American	257,000	433,000	68.5%
	Asian or Pacific Islander	42,000	90,000	114.3%
	American Indian, Eskimo, or Aleut	265,000	367,000	38.5%
	Hispanic	104,000	245,000	135.6%

LEADING HEALTH INDICATORS

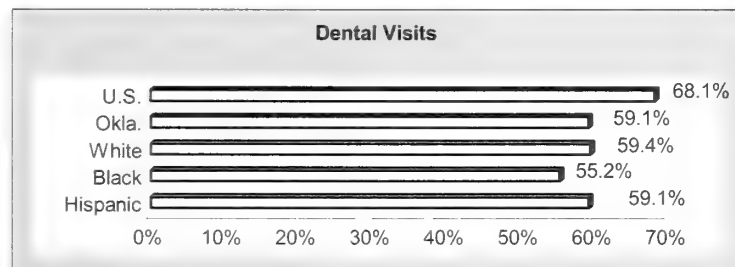
Infant Mortality (per 1,000 live births)²



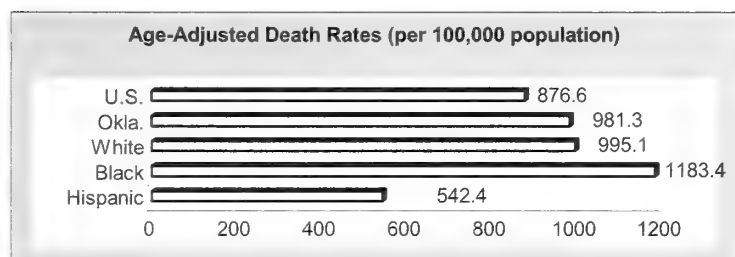
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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⁴Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

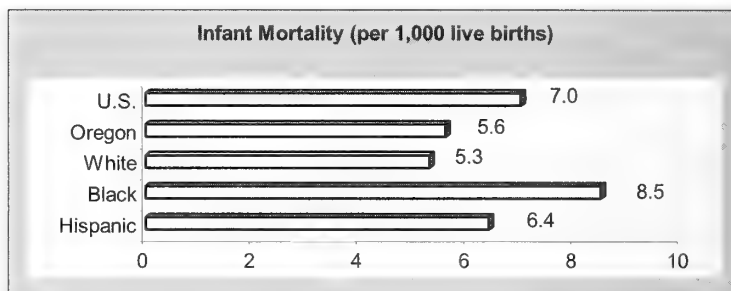
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

OREGON

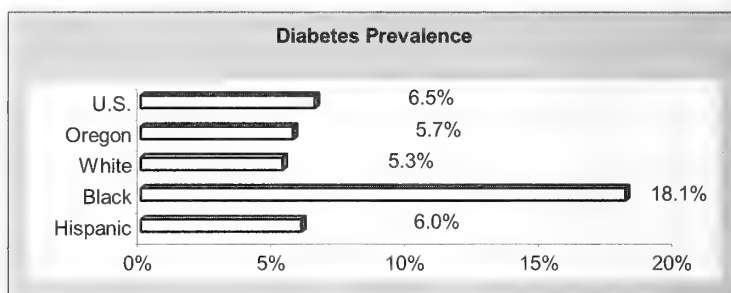
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		3,140,000	4,349,000	38.5%
OREGON	White	2,947,000	3,960,000	34.4%
	Black or African American	56,000	101,000	80.4%
	Asian or Pacific Islander	92,000	215,000	133.7%
	American Indian, Eskimo, or Aleut	45,000	73,000	62.2%
	Hispanic	150,000	429,000	186.0%

LEADING HEALTH INDICATORS

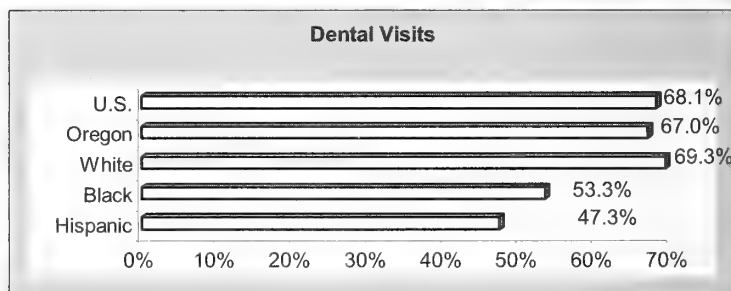
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵

Information on age-adjusted death rates is not available for Oregon

¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

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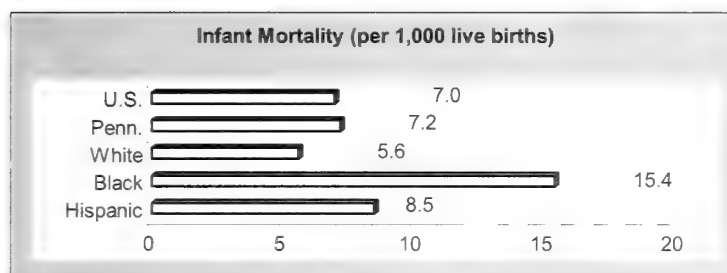
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

PENNSYLVANIA

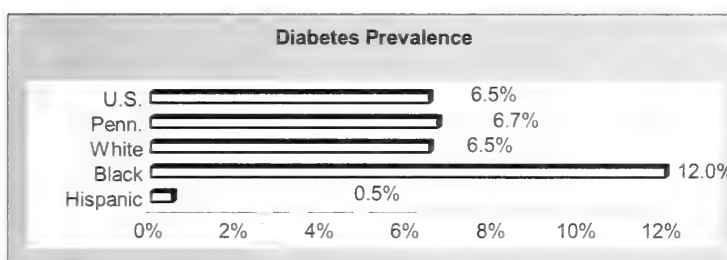
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		12,071,000	12,683,000	5.1%
PENNSYLVANIA	White	10,709,000	10,716,000	0.1%
	Black or African American	1,168,000	1,530,000	31.0%
	Asian or Pacific Islander	178,000	410,000	130.3%
	American Indian, Eskimo, or Aleut	16,000	27,000	68.8%
	Hispanic	279,000	639,000	129.0%

LEADING HEALTH INDICATORS

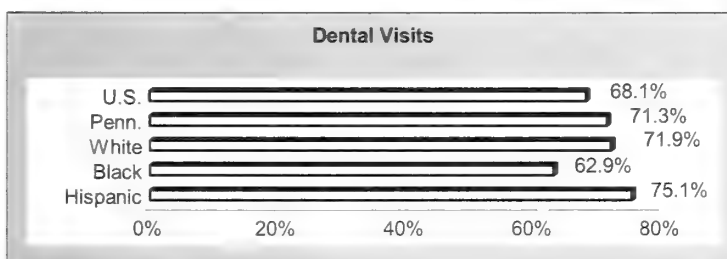
Infant Mortality (per 1,000 live births)²



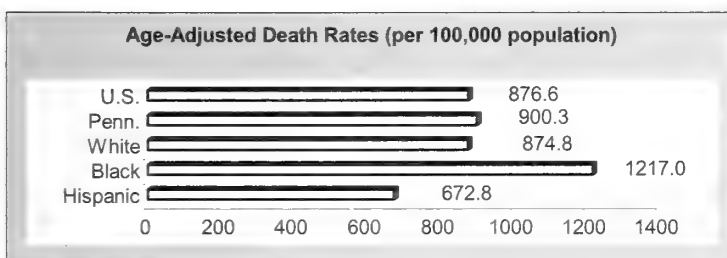
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

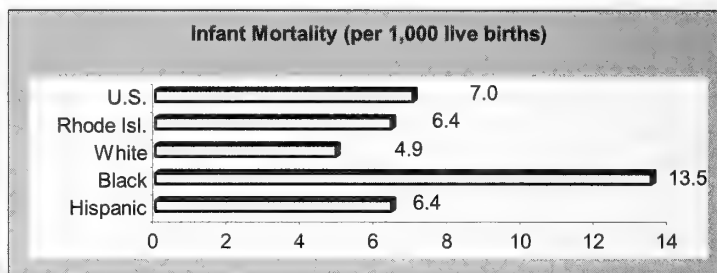
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

RHODE ISLAND

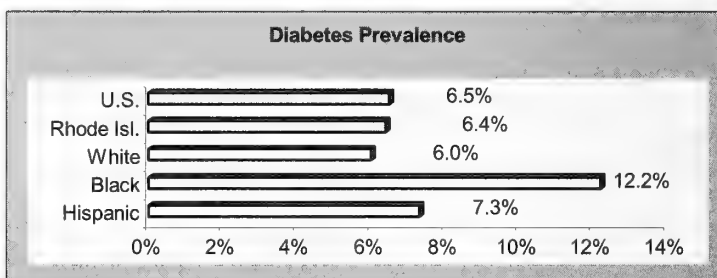
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		990,000	1,141,000	15.3%
RHODE ISLAND	White	916,000	977,000	6.7%
	Black or African American	48,000	91,000	89.6%
	Asian or Pacific Islander	22,000	63,000	186.4%
	American Indian, Eskimo, or Aleut	4,000	10,000	150.0%
	Hispanic	60,000	176,000	193.3%

LEADING HEALTH INDICATORS

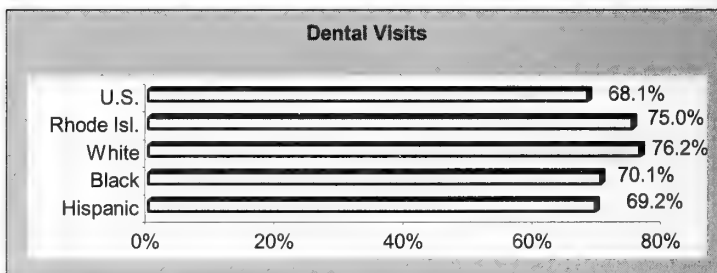
Infant Mortality (per 1,000 live births)²



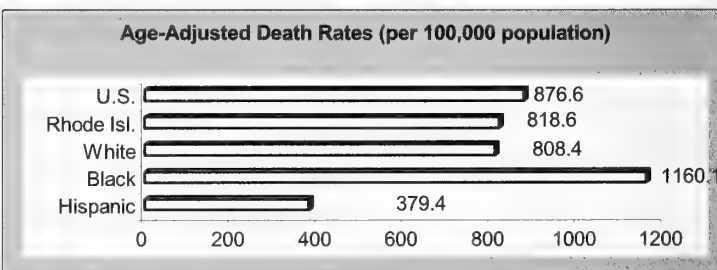
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

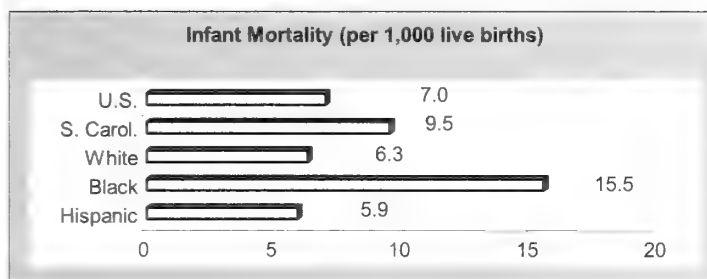
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

SOUTH CAROLINA

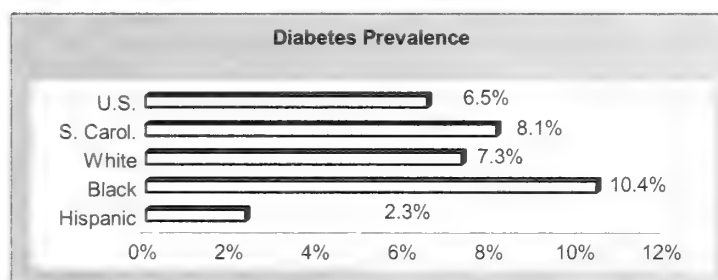
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		3,673,000	4,643,000	26.4%
SOUTH CAROLINA	White	2,533,000	3,174,000	25.3%
	Black or African American	1,103,000	1,402,000	27.1%
	Asian or Pacific Islander	29,000	57,000	96.6%
	American Indian, Eskimo, or Aleut	8,000	10,000	25.0%
	Hispanic	36,000	81,000	125.0%

LEADING HEALTH INDICATORS

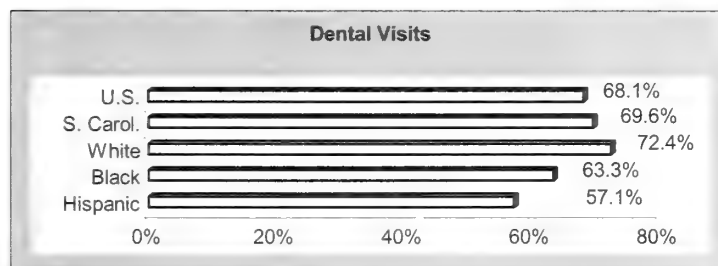
Infant Mortality (per 1,000 live births)²



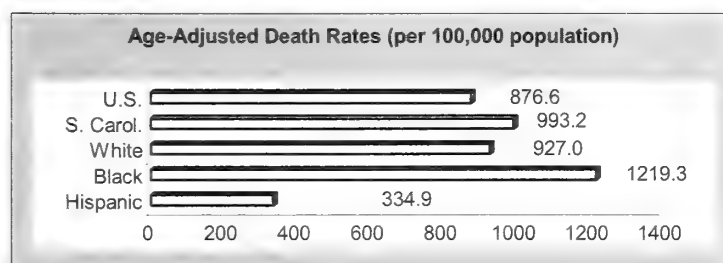
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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³Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

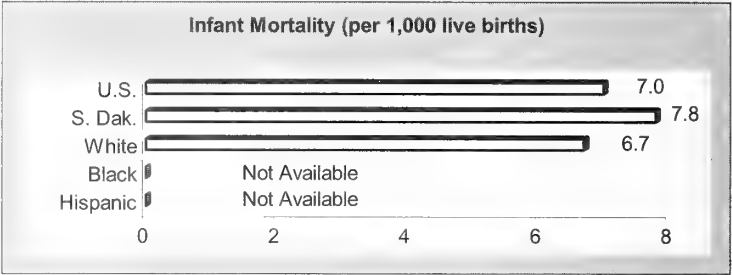
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

SOUTH DAKOTA

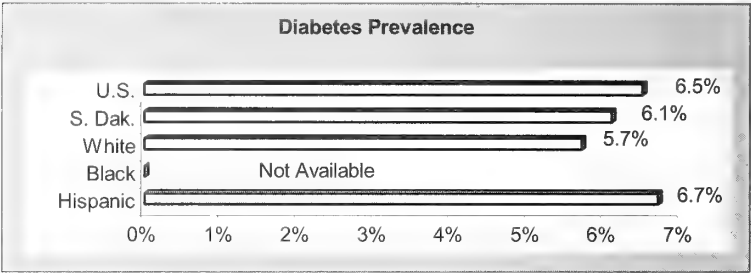
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		729,000	864,000	18.5%
SOUTH DAKOTA	White	668,000	759,000	13.6%
	Black or African American	3,000	7,000	133.3%
	Asian or Pacific Islander	4,000	9,000	125.0%
	American Indian, Eskimo, or Aleut	54,000	89,000	64.8%
	Hispanic	7,000	14,000	100.0%

LEADING HEALTH INDICATORS

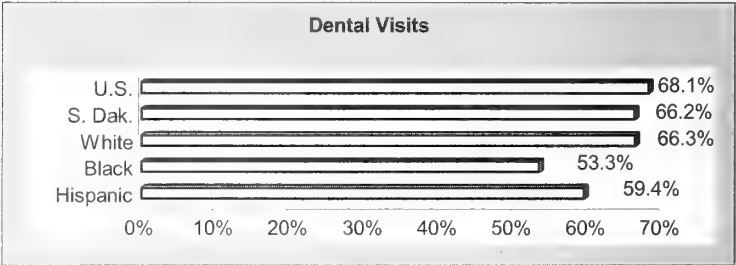
Infant Mortality (per 1,000 live births)²



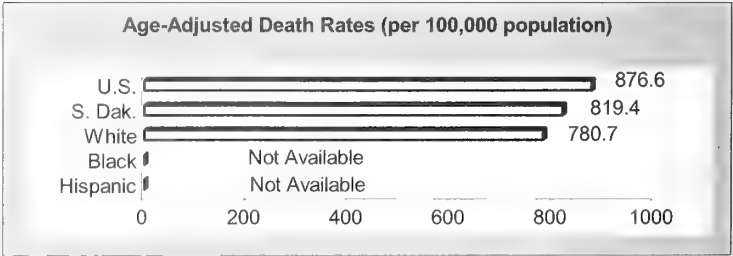
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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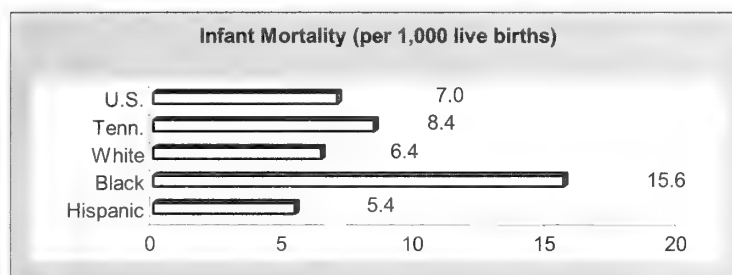
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

TENNESSEE

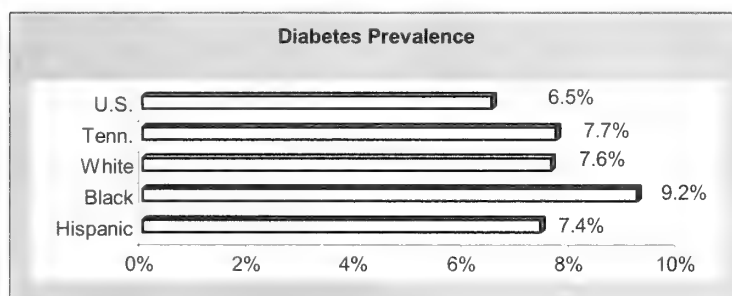
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		5,254,000	6,666,000	26.9%
TENNESSEE	White	4,347,000	5,332,000	22.7%
	Black or African American	853,000	1,223,000	43.4%
	Asian or Pacific Islander	44,000	93,000	111.4%
	American Indian, Eskimo, or Aleut	10,000	18,000	80.0%
	Hispanic	45,000	104,000	131.1%

LEADING HEALTH INDICATORS

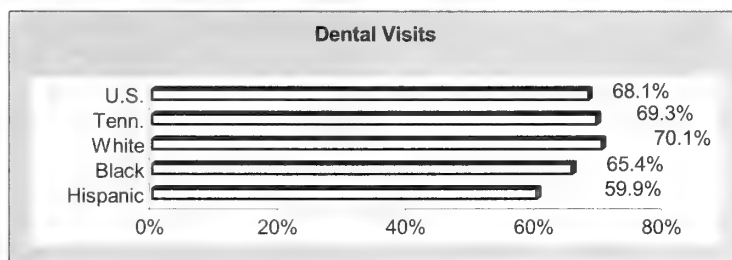
Infant Mortality (per 1,000 live births)²



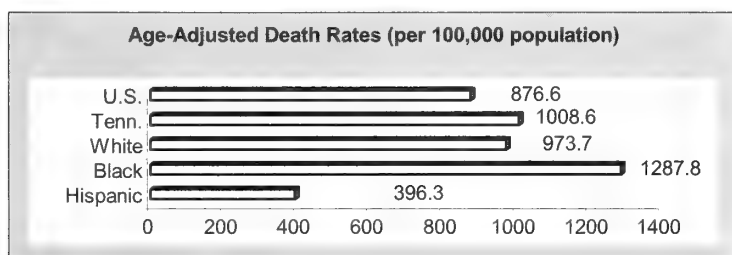
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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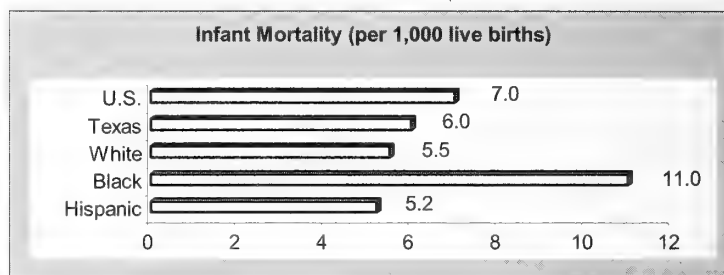
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

TEXAS

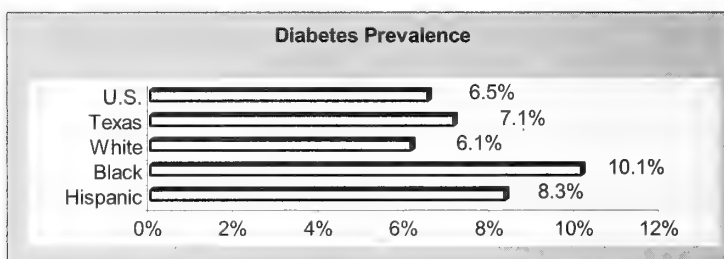
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		18,722,000	27,184,000	45.2%
TEXAS	White	15,894,000	22,089,000	39.0%
	Black or African American	2,292,000	3,871,000	68.9%
	Asian or Pacific Islander	452,000	1,065,000	135.6%
	American Indian, Eskimo, or Aleut	84,000	159,000	89.3%
	Hispanic	5,173,000	10,230,000	97.8%

LEADING HEALTH INDICATORS

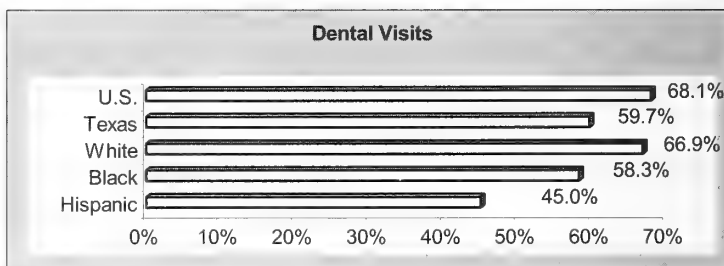
Infant Mortality (per 1,000 live births)²



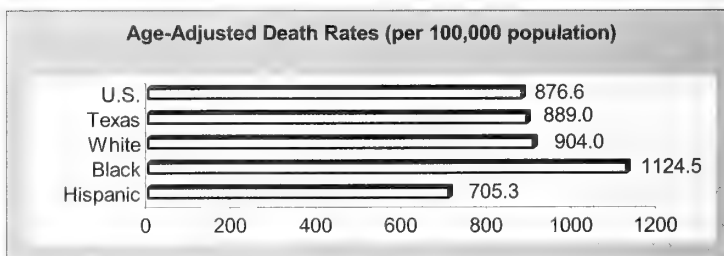
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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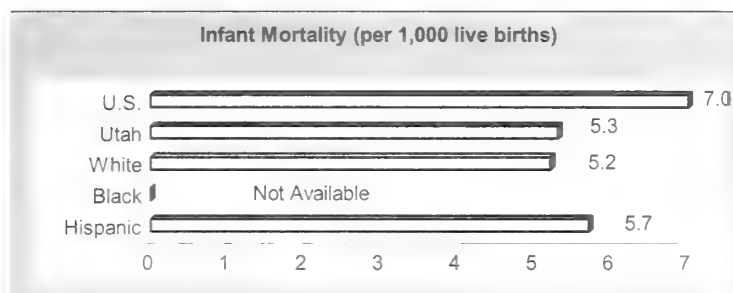
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

UTAH

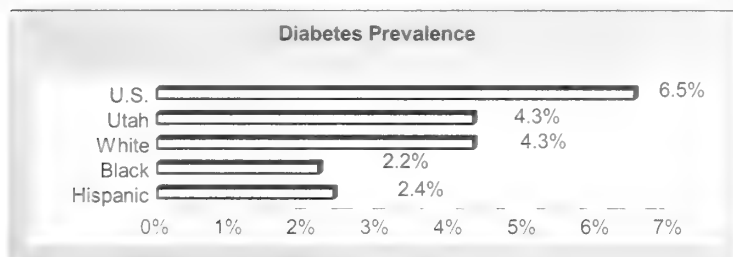
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		1,953,000	2,883,000	47.6%
UTAH	White	1,859,000	2,672,000	43.7%
	Black or African American	18,000	39,000	116.7%
	Asian or Pacific Islander	46,000	113,000	145.7%
	American Indian, Eskimo, or Aleut	30,000	59,000	96.7%
	Hispanic	110,000	265,000	140.9%

LEADING HEALTH INDICATORS

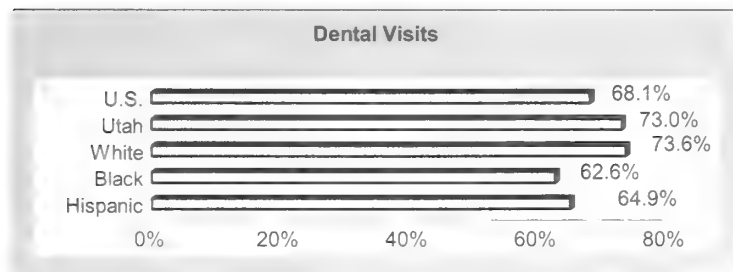
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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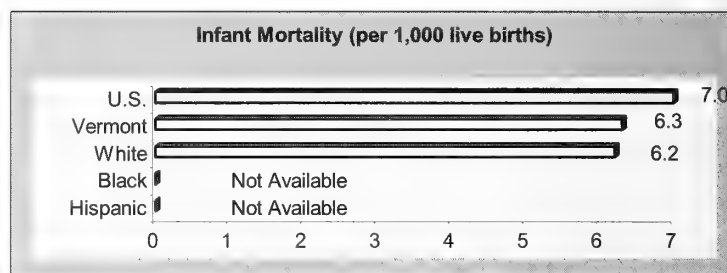
⁵Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

VERMONT

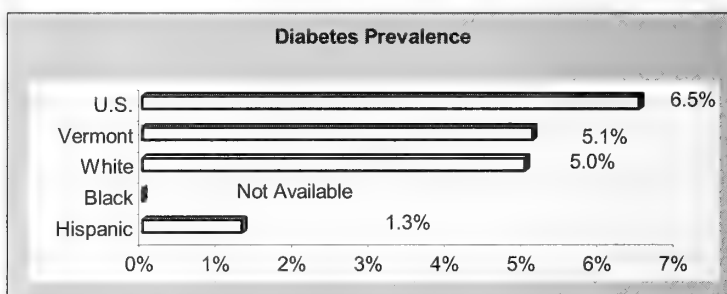
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		584,000	678,000	16.1%
VERMONT	White	576,000	659,000	14.4%
	Black or African American	2,000	6,000	200.0%
	Asian or Pacific Islander	4,000	11,000	175.0%
	American Indian, Eskimo, or Aleut	2,000	2,000	0.0%
	Hispanic	4,000	12,000	200.0%

LEADING HEALTH INDICATORS

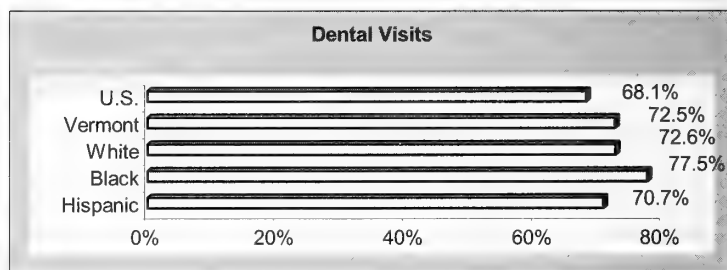
Infant Mortality (per 1,000 live births)²



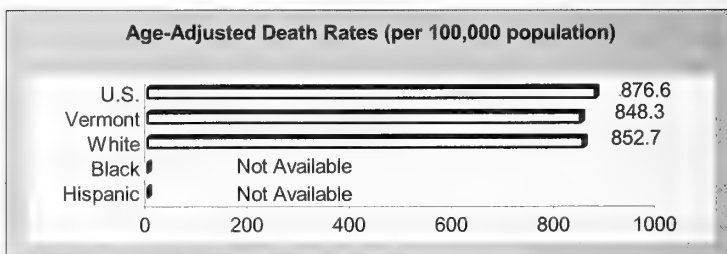
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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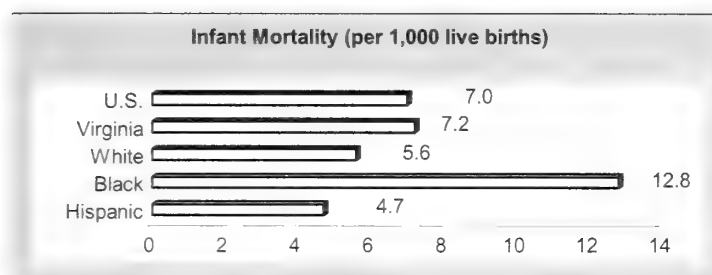
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

VIRGINIA

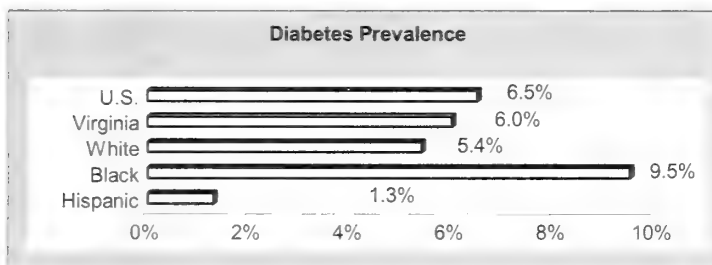
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		6,618,000	8,467,000	27.9%
VIRGINIA	White	5,090,000	5,951,000	16.9%
	Black or African American	1,298,000	1,973,000	52.0%
	Asian or Pacific Islander	212,000	519,000	144.8%
	American Indian, Eskimo, or Aleut	18,000	24,000	33.3%
	Hispanic	209,000	538,000	157.4%

LEADING HEALTH INDICATORS

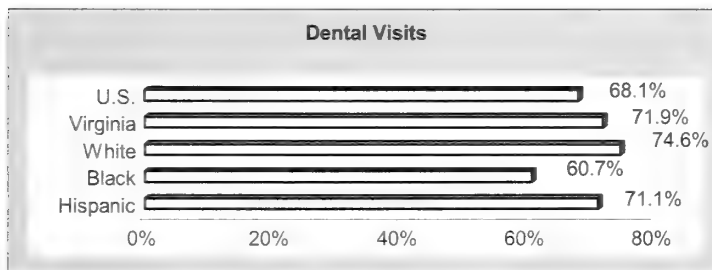
Infant Mortality (per 1,000 live births)²



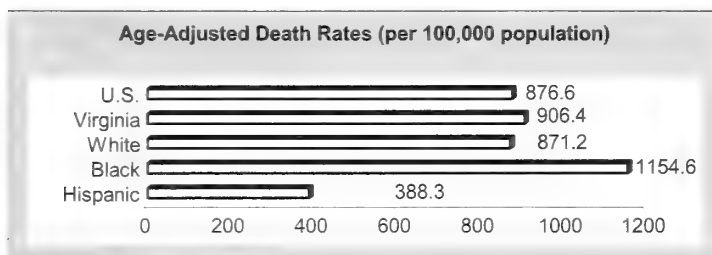
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

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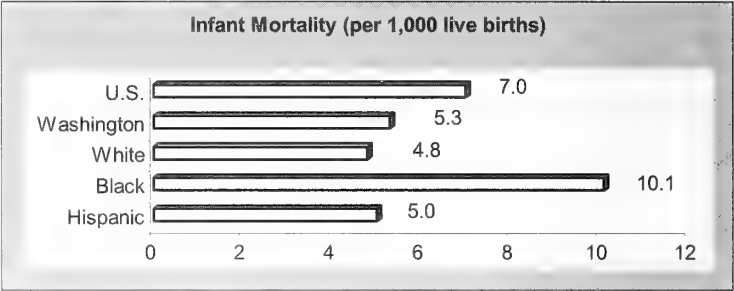
Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

WASHINGTON

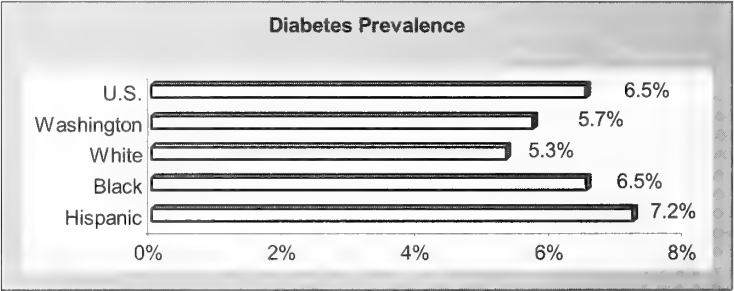
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		5,432,000	7,806,000	43.7%
WASHINGTON	White	4,864,000	6,662,000	37.0%
	Black or African American	180,000	279,000	55.0%
	Asian or Pacific Islander	288,000	714,000	147.9%
	American Indian, Eskimo, or Aleut	100,000	151,000	51.0%
	Hispanic	284,000	797,000	180.6%

LEADING HEALTH INDICATORS

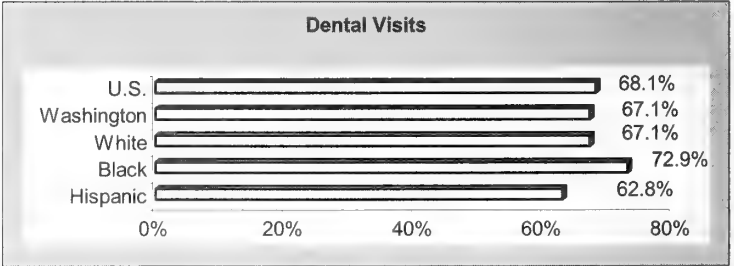
Infant Mortality (per 1,000 live births)²



Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵

Information on age-adjusted death rates is not available for Washington

¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

² Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

⁴ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 1999. Percentages are for dental visits in the past year.

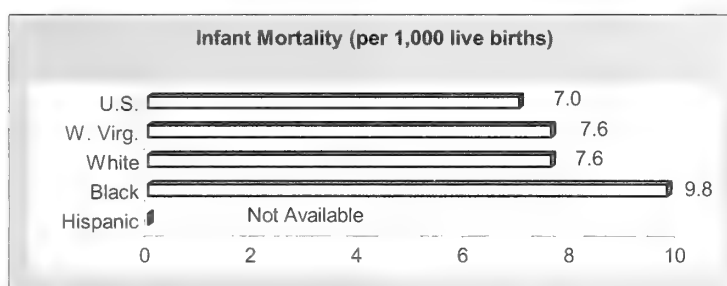
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

WEST VIRGINIA

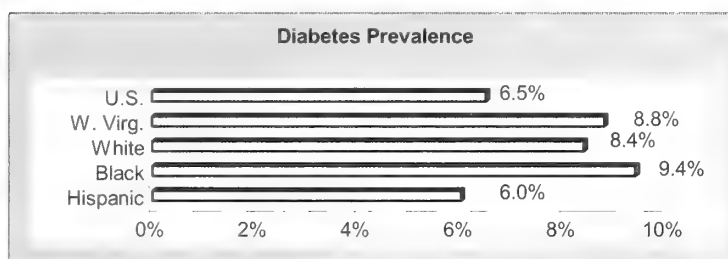
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		1,827,000	1,843,000	0.9%
WEST VIRGINIA	White	1,759,000	1,755,000	-0.2%
	Black or African American	57,000	66,000	15.8%
	Asian or Pacific Islander	9,000	20,000	122.2%
	American Indian, Eskimo, or Aleut	2,000	2,000	0.0%
	Hispanic	9,000	24,000	166.7%

LEADING HEALTH INDICATORS

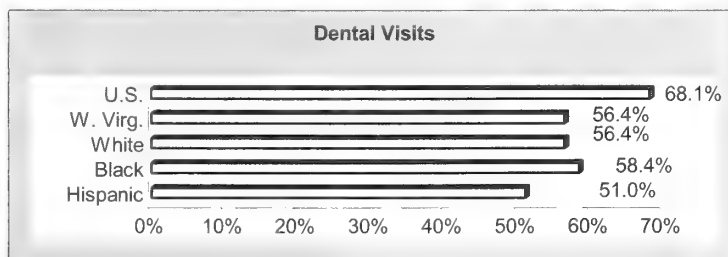
Infant Mortality (per 1,000 live births)²



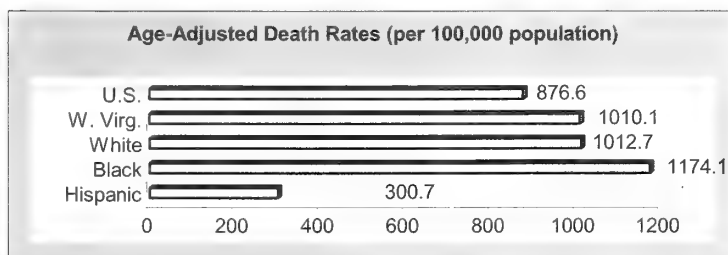
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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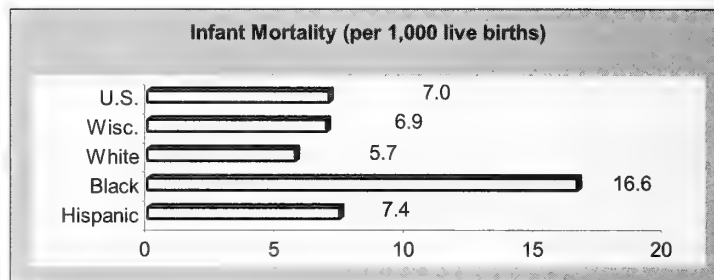
Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

WISCONSIN

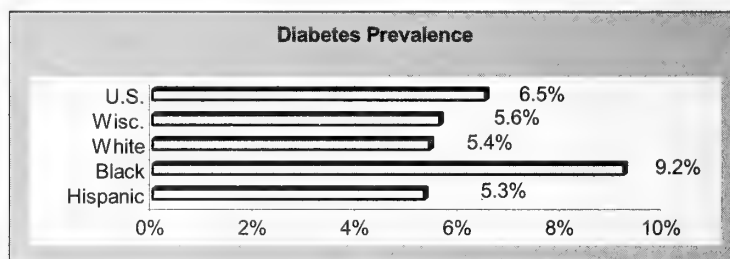
		1995	2025	Relative Change
TOTAL STATE POPULATION ¹		5,121,000	5,867,000	14.6%
WISCONSIN	White	4,720,000	5,093,000	7.9%
	Black or African American	283,000	501,000	77.0%
	Asian or Pacific Islander	73,000	210,000	187.7%
	American Indian, Eskimo, or Aleut	45,000	63,000	40.0%
	Hispanic	114,000	236,000	107.0%

LEADING HEALTH INDICATORS

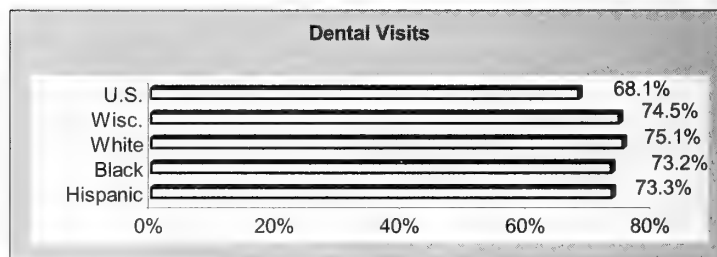
Infant Mortality (per 1,000 live births)²



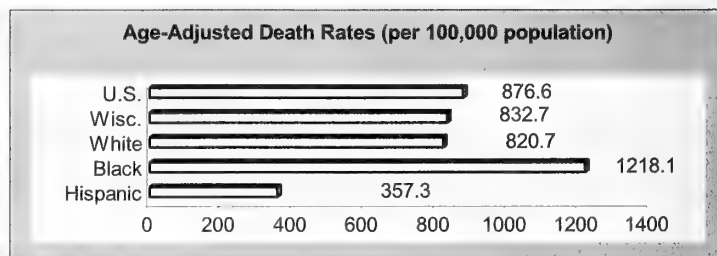
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹ U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

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³ Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Data from 2001. Percentages are for non-pregnancy related diabetes.

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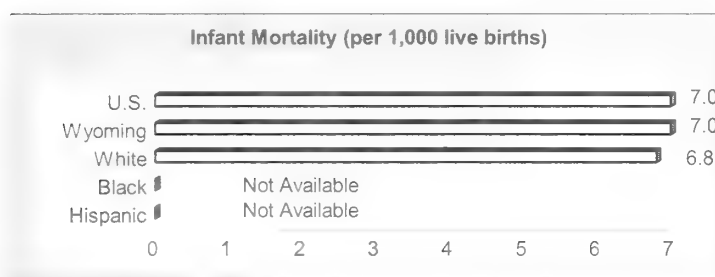
⁵ Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

WYOMING

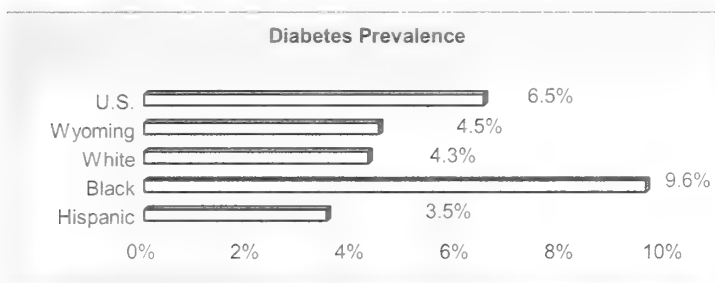
		1995	2025	Relative Change
TOTAL STATE POPULATION¹		479,000	698,000	45.7%
WYOMING	White	462,000	648,000	40.3%
	Black or African American	3,000	11,000	266.7%
	Asian or Pacific Islander	3,000	12,000	300.0%
	American Indian, Eskimo, or Aleut	11,000	27,000	145.5%
	Hispanic	27,000	74,000	174.1%

LEADING HEALTH INDICATORS

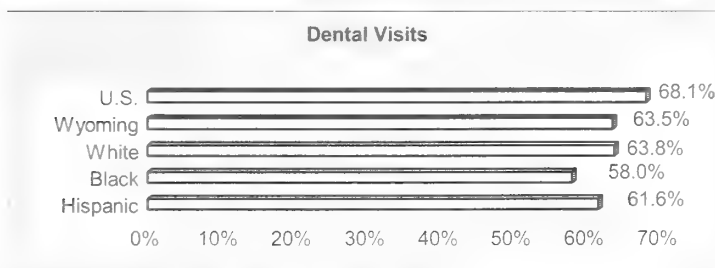
Infant Mortality (per 1,000 live births)²



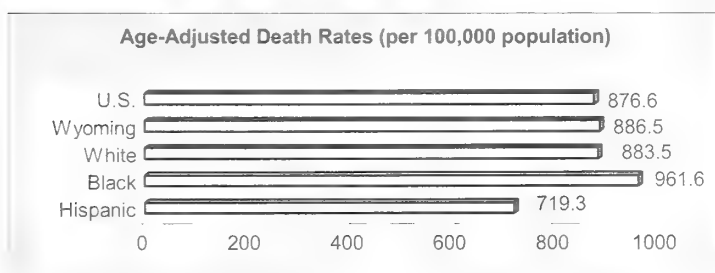
Diabetes Prevalence³



Dental Visits⁴



Age-Adjusted Death Rates (per 100,000 population)⁵



¹U.S. Census Bureau. Source: Projected State Populations, by Sex, Race, and Hispanic Origin: 1995-2025 (Numbers rounded to nearest thousand. Resident population. Series A projections. For more details, see PPL #47, "Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2025.")

²Source: National Center for Health Statistics, Health, United States 2002; Data from years 1998-2000.

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